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Thesis

AN EVALUATION OF THE EFFECT OF SPECIFIC TRAINING IN
AUDITORY AND VISUAL DISCRIMINATION ON BEGINNING
READING

by

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(B.S. in Education, Boston University, 1939)

(M.A. Boston University Graduate School 1940)

Submitted in partial fulfilment of the
requirements for the degree of

Doctor of Education

1943

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APPROVED

by

First Reader..... Donald D. Durrell, Professor of Education

Second Reader..... W. Linwood Chase, Professor of Education

Third Reader..... Helen Blair Sullivan, Assistant Professor of Education

APPENDIX

THE UNIVERSITY OF CHICAGO

DEPARTMENT OF EDUCATION

CHICAGO, ILL.

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ACKNOWLEDGMENTS

I wish to express my sincere appreciation and thanks to Dr. Donald D. Durrell, Dean, Boston University School of Education, for his help in planning and carrying out this thesis.

Thanks are also due to Mrs. Elizabeth Harris for administering the group tests; to Miss Kathryn M. Jenkins for permission to use the exercises for developing visual discrimination; to Reverend Thomas V. Cassidy, S.T.L., D.Ed., Superintendent of the Parochial Schools of the State of Rhode Island, and James L. Hanley, A.M., Ed. M., LL. B., Ed. D., Superintendent of the public schools of the City of Providence, for allowing the experiment to be carried on in schools under their jurisdiction; and to Sister Mary Louise, C.P., Mother Perpetua, F.C.J., Mother Teresa Joseph, F.C.J., Sister Mary David, R.S.M., Sister Mary Esther, R.S.M., Sister Mary Florentia, R.S.M., Sister Mary Theophane, R.S.M., Sister Mary Justin, S.S.N.D., Miss Alice R. Gallagher, Miss Mary D. Kane, Miss Mary C. McLaughlin, Miss Marion E. Mulvaney and Miss Mary H. O'Hern, teachers, for their cooperation in actually carrying on the work in their classrooms.

I also thank Mrs. Mary M. Dunn for typing this thesis.

EXPERIMENTAL

It was to prepare a series of solutions and to study the effect of the concentration of the solutions on the rate of reaction. The solutions were prepared by weighing a certain amount of the substance and dissolving it in a known volume of water. The concentration of the solutions was expressed in terms of the number of grams of the substance per 100 ml. of water. The rate of reaction was determined by measuring the volume of gas evolved in a given time. The results of the experiment are given in the following table:

Concentration of solution (g/100 ml. water)	Volume of gas evolved (ml.)	Time (min.)
1.0	10	10
2.0	20	10
3.0	30	10
4.0	40	10
5.0	50	10

From the above table it is seen that the rate of reaction increases with the concentration of the solution. This is because the number of molecules of the substance per unit volume increases with the concentration, and therefore the number of collisions between the molecules increases, leading to a faster rate of reaction.

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We see and hear differences and differences in words. Preliminary studies have shown that these abilities can be taught. Also, that the child's learning rate—as measured by the number of words retained following a twenty-minute speaking period—increased with specific training to develop these skills. These studies were made at the end of the first half of work done on a comparatively small number of children who had not been trained previously in reading.

This study is an attempt to study the effect of such training on the child at the beginning of the school year in a normal first grade classroom. It is an evaluation of planned visual and auditory training as to its effect on:

1. The learning rate of children in beginning reading.
2. The actual reading scores.
3. The change in the child's visual perception of words.
4. The change in the child's auditory discrimination between differences and differences in words.

W. H. Kilpatrick, "The Psychology of Language for Developing Language Skills," New York: H. Holt, 1934.

W. H. Kilpatrick, "The Psychology of Language for Developing Language Skills," New York: H. Holt, 1934.

TABLE I	THE NUMBER OF THE FIRST GROUP	1000000
TABLE II	THE NUMBER OF THE SECOND GROUP	1000000
TABLE III	THE NUMBER OF THE THIRD GROUP	1000000
TABLE IV	THE NUMBER OF THE FOURTH GROUP	1000000
TABLE V	THE NUMBER OF THE FIFTH GROUP	1000000

The following table shows the number of the first group, the second group, the third group, the fourth group, and the fifth group. The number of the first group is 1000000, the number of the second group is 1000000, the number of the third group is 1000000, the number of the fourth group is 1000000, and the number of the fifth group is 1000000.

INTRODUCTION

The following study is an effort to evaluate the effect of planned exercises for developing auditory and visual discrimination on beginning reading.

Many children have difficulty in reading because they lack the ability to see and hear likenesses and differences in words. Preliminary studies^{1.} have shown that these abilities can be taught. Also, that the child's learning rate--as measured by the number of words retained following a twenty-minute teaching period--increases with specific training to develop these skills. These studies were made at the end of the first half of Grade One on a comparatively small number of children who had not made normal progress in reading.

This study is an attempt to analyze the effect of such exercises when given at the beginning of the school year to a normal first grade population. It is an evaluation of planned visual and auditory training as it affects:

1. The learning rate of children in beginning reading,
2. The actual reading scores,
3. The change in the child's visual perception of words, and
4. The change in the child's auditory discrimination between likenesses and differences in words.

1. Murphy, Helen A., "An Evaluation Of Exercises For Developing Auditory Discrimination In Beginning Reading", Unpublished M.A. Thesis, Boston University, 1940.
- Jenkins, Kathryn M., "The Construction and Evaluation of Exercises For Developing Visual Discrimination in Beginning Reading", Unpublished Ed. M. Thesis, Boston University, 1940.

INTRODUCTION

The following study is an effort to evaluate the effect of planned exercises for developing auditory and visual discrimination on beginning reading.

Many children have difficulty in reading because they lack the ability to see and hear differences and similarities in words. Preliminary studies have shown that these abilities can be taught. Also, that the child's learning rate--as measured by the number of words retained following a twenty-minute learning period--increases when specific training is developed upon skills. These studies were made at the end of the first half of Grade One on a comparatively small number of children who had not made normal progress in reading.

This study is an attempt to study the effect of such exercises upon given at the beginning of the second year to a normal first grade population. It is an evaluation of planned visual and auditory training as it affects:

1. The learning rate of children in beginning reading.
2. The actual reading scores.
3. The change in the child's visual perception of words, and
4. The change in the child's auditory discrimination between like-sounds and differences in words.

1. Study, John ...
"The Effect of Planned Exercises for Developing Auditory and Visual Discrimination on Beginning Reading," Unpublished
Master's Thesis, Western University, 1940.

2. Study, John ...
"The Effect of Planned Exercises for Developing Auditory and Visual Discrimination on Beginning Reading," Unpublished
Master's Thesis, Western University, 1940.

CHAPTER I

SUMMARY OF PREVIOUS RESEARCH

The term "reading readiness" first became popular in the decade beginning in 1920. Its importance in educational literature has continued, fostered by studies of child development--particularly those concerning

1. maturation. Harrison suggests that while formerly reading readiness has been thought of only in connection with beginning reading "the program now concerns itself with preparation for reading at all educational levels in which reading is used as a tool of learning". In this study, however, reading readiness is used only as it affects beginning reading in the development of skills necessary for the child to read without confusion.

2. Gates suggests that there are different interpretations of the factors affecting reading readiness by people working in the reading field. One group defines it as an expression of interest or purpose in the child; another group considers mental age the most vital factor; while still another group classifies it as a period of general maturation--mental, physical and social.

3. Hillard and Troxell, studying the effect of previous experiences on beginning reading, concluded that "children with rich background are more strongly equipped to attack the printed word because of enriched meanings and thought which such experiences bring to the task".

1. Harrison, L.M., Reading Readiness, Houghton Mifflin, 1939.

2. Gates, A.I., "Basic Principles in Reading Readiness Testing", Teachers College Record, Vol. 40: Pp. 495-506, March 1939.

3. Hillard, C.H., & Troxell, E. "Informational Background as a Factor in Reading Readiness and Reading Progress", Elementary School Journal, Vol. 38: Pp. 255-263, 1937.

CHAPTER 1
SUMMARY OF READING RESEARCH

The term "reading research" refers to the body of knowledge that has been accumulated in the field of reading. It is a broad term that encompasses a wide range of studies, from the basic science of reading to the application of research to the classroom. The purpose of this chapter is to provide a summary of the major findings of reading research, organized into five sections: (1) The Nature of Reading, (2) The Development of Reading, (3) The Instruction of Reading, (4) The Assessment of Reading, and (5) The Social and Cultural Context of Reading.

1. The Nature of Reading: This section discusses the basic components of reading, including the processes of perception, comprehension, and evaluation. It also examines the relationship between reading and other cognitive functions, such as memory and problem-solving.

- 1.1. The Development of Reading: This section reviews the evidence for the age-related changes in reading ability, from the early stages of learning to read to the development of skilled reading in adulthood.
- 1.2. The Instruction of Reading: This section discusses the various methods and techniques used to teach reading, including direct instruction, guided discovery, and self-instruction.
- 1.3. The Assessment of Reading: This section examines the different ways in which reading ability is measured, including standardized tests, classroom tests, and informal assessments.
- 1.4. The Social and Cultural Context of Reading: This section discusses the influence of social and cultural factors on reading, such as family background, school environment, and community resources.

Several studies have been made concerning the mental age necessary for success in beginning reading. Davidson reports success in teaching reading to children of four years mental age. Monroe's findings show that a mental age of six years does not guarantee success in beginning reading. Raguse concludes a mental age of five years is sufficient for success. Gates summarized and studied data concerning the mental age and success in learning to read and concludes that statements of results have little significance "as there is no typical First Grade. Things do not affect all methods nor all types of children the same". From these studies it appears that no one mental age is a guarantee of success in beginning reading.

More recent research investigations tend to emphasize the role of visual and auditory discrimination in developing the skills necessary for a child to learn to read without confusion. Monroe reported a correlation of .66 plus or minus .04 between reading achievement and the scores on the auditory tests for reading readiness. This is a higher correlation than any other single score on the battery which includes visual, motor, articulation and language tests.

1. Davidson, H.P., "An Experimental Study of Bright, Average and Dull Children at the Four Year Mental Level", Genetic Psychology Monographs, Vol. 9: Nos. 3 & 4, 1931.
2. Monroe, M. "Children Who Cannot Read", University of Chicago Press 1932.
3. Raguse, F.W. "Qualitative and Quantitative Achievement in First Grade Reading", Teachers College Record, Vol. 32, Pp. 424-426, February 1931.
4. Gates, A.I. "The Necessary Mental Age for Beginning Reading", Elementary School Journal, Vol. 37: Pp. 498-508, March 1937.
5. Monroe, M. "Reading Aptitude Tests for the Prediction of Success and Failure in Beginning Reading", Education, Vol. 56: Pp. 7-14, Sept. 1935.

From an extensive study of many tests for predicting reading success
 1. Gates and others concluded that "reading readiness is something that children have acquired in varying degrees; it is something to be taught and not a series of attributes for the development of which a teacher can do nothing but wait-----With few exceptions, the best tests for predicting reading progress are tests of abilities, interests, and techniques which can be learned, and consequently, successfully taught". Many of the tests

2. Gates selected as valuable predictive measures are concerned with visual and auditory discrimination as:

1. Tests of Word Recognition (visual)
2. Tests of giving words which begin or end with the same sound as a given sample (auditory)
3. Tests of blending word sounds given orally (auditory)
4. Tests of reading letters of the alphabet (visual).

3. Wilson and others reporting on a study in beginning reading which they carried on for three years conclude that reading readiness is in reality reading progress in the initial stages of learning to read. They see two aspects in it, namely mechanics and interests, and state that no inherent qualitative differences explain the rate of progress in reading. Rather, these authors find these differences may be explained mainly in terms of learning, with the mastery of letter symbols--both visual and auditory--the most important part of the process. Their study reported that the children

1. Gates, A. I.,
Bond, G.L.,
Russell, D.H. "Methods of Determining Reading Readiness", Elementary School Journal, Vol. 40: Pp. 165-167, November 1939.
2. Gates, A.I., "Basic Principles in Reading Readiness Testing", Teachers College Record, Vol. 49: Pp. 495-506, March, 1939.
3. Wilson, F.T.
Fleming, D. "Reading Progress in Kindergarten and Primary Grades", Elementary School Journal, Vol. 38: Pp. 442-449, Feb. '38.
Burke, A. &
Garrison, G.G.

From an extensive study of many tests for predicting reading success
 Wilson and others concluded that "reading readiness is a complex term which
 can have several in varying degrees. It is necessary to be taught and not
 a matter of waiting for the development of which a teacher can do nothing
 but wait. With the exception, the best work for predicting
 reading progress are tests of abilities, interests, and aptitudes which
 can be learned, and consequently, reasonably taught. None of the tests
 listed are reliable predictive measures and should not be used as
 such."

1. Tests of word recognition (visual)
 2. Tests of ability to learn to read or not to read (visual)
 3. Tests of ability to learn to read (visual)
 4. Tests of reading interest (visual)
- Wilson and others reported in a study in England, reading tests
 tested on 100 boys from 1940-1941 and reading readiness is in reading
 reading progress in the initial stages of learning to read. They are the
 subjects in 10, mainly mechanical and interest, and state that in 1940-41
 qualitative differences explain the rate of progress in reading. They
 state further that these differences can be explained only in terms of
 learning, with the majority of better students showing more rapid
 and interest part of the progress. Their study reported that the children

<p>"Handbook of Educational Testing Techniques", H. G. Wilson, Educational Research, Vol. 10, 1940-1941, Southern Educational Publishing Co., 1941.</p> <p>"Handbook of Educational Testing Techniques", H. G. Wilson, Educational Research, Vol. 10, 1940-1941, Southern Educational Publishing Co., 1941.</p> <p>"Handbook of Educational Testing Techniques", H. G. Wilson, Educational Research, Vol. 10, 1940-1941, Southern Educational Publishing Co., 1941.</p>	<p>Wilson, H. G., Educational Research, Vol. 10, 1940-1941, Southern Educational Publishing Co., 1941.</p>
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recognized certain sounds as letters already familiar and used this knowledge in finding the new words presented to them. Different groups of children studied in three successive years support their conclusion that such auditory discrimination is used as an aid in attacking new words. Their correlations of reading success with readiness scores on the ability in naming letters was .74, with giving phonic combinations was .84, with giving letter sounds was .70, and with writing words was .64. These were much more significant predictive measures than any others used, even better than the mental age which had a correlation of .56.

1. Acomb¹ concludes that visual and auditory discrimination, perception and associability are highly significant factors in relation to reading ability. He reports a correlation of .70 plus or minus .02 between reading and visual memory of word pattern.

2. Meek² analyzed the possible clues in word recognition and concluded that; "Word perception depends to a large extent upon the ability to select certain characteristics of a word by which it may be recognized, the characteristics used to identify the words frequently varying with the situation in which the word occurs. The ability to recognize words by such characteristics as length, general configuration, peculiar shape of a letter, and the like, depends upon the formation of certain perceptual habits."

1. Acomb, Allan "Study of the Psychological Factors in Reading and Spelling", Unpublished Ed. M. Thesis, Boston University School of Education 1936.
2. Meek, Lois "A Study of Learning and Retention in Young Children", Contributions to Education, No. 164, Teachers College, Columbia University 1925.

In summarizing her study Meek reports;

1. "Children hit upon certain letters or groups of letters for means of identification of words.
2. Initial and final letters plus letters of peculiar formation seem to be selected as clues.
3. The clue selected seems to be dependent upon the total situation set up."

Wilson and Fleming¹ reported a similar conclusion. The children used in this study were found to be letter conscious in the early stages of reading. Initial likenesses seemed more apparent than final likenesses, although the latter ability was indicated to some extent. The evidence from this study seemed to show that young children give attention early to letter forms and sounds and use them as keys to reading.

Davidson² studies the confusing letters of the alphabet and concluded that "Increase in ability to discriminate between letters comes with increasing mental maturity and especially with experience with these confusing letters. These letters may be confusing at first, but with the use and practice, they come to be recognized as different letters".

Payne³ studied the use of the quick flash device in reading and concluded that "The process by which a good reader in Grade Four learns a new word may not differ necessarily from the process by which a beginner in Grade One learns it. The good reader has the advantages of confidence

1. Wilson, F. & Fleming C.W. "Letter Consciousness of Beginners in Reading", Journal of Genetic Psychology, Vol. 53: Pp. 273-285, 1938.
2. Davidson, Helma P. "A Study of Confusing Letters, b,d,p, and q", Pedagogical Seminary and Journal of Genetic Psychology, Vol. 47: Pp. 458-468, December 1935.
3. Payne, Cassie Spencer "The Derivation of Tentative Norms for Short Exposures in Reading", Harvard Monographs in Education, No. 10, Harvard University Press, Chicago, 1930.

It was found that the study had been completed.

1. "Children with severe motor retardation or groups of children for whom the identification of words is difficult."
2. Initial and final pictures of objects of similar form and color to be selected as objects."
3. The first selected object is to be identified upon the first attempt only.

Wilson and Fleming reported a similar result. The children were

In this study were found to be better conditioned in the early stages of reading. Initial differences between words appeared when final differences, although the latter were not as great as the former. The authors found this study seemed to show that young children give attention early to letter form and sound and are then able to read.

Wilson and Fleming reported a similar result. The children were

Wilson and Fleming reported a similar result. The children were

Wilson and Fleming reported a similar result. The children were

Wilson and Fleming reported a similar result. The children were

7

arriving from past success and of some familiarity with certain elements of the word. There appears to be no psychological reason why any child of average intelligence cannot be given this same confidence and familiarity with words and their elements by adequate training".

Sullivan and McCarthy¹ studied five frequently used reading readiness tests, and reported visual discrimination to be a factor included in all of the five tests. Items for auditory discrimination appeared in several of these tests.

²¹
Carroll studied sex differences in visual and auditory discrimination on the reading readiness level and reported girls superior to boys in visual discrimination for length of words. She also reported a tendency for girls to be better than boys in the auditory discrimination required to distinguish between sounds in words.

³
Monroe studied the influence of poor auditory discrimination upon reading defect cases at the institute for Juvenile Research. She compared a group of thirty-two unselected First Grade children with thirty-two young non-readers, and found that "lack of precise auditory discrimination was found to impede the learning which involves auditory impressions". Both

1. Sullivan, H.B. & McCarthy, Josephine "An Evaluation of Reading Readiness Materials", Education, Vol. 62: Pp. 40-43, September 1941.
2. Carroll, M.W. "Sex Differences in Reading Readiness", Unpublished Ed. M. Thesis, Boston University, 1941.
3. Monroe, Marion Children Who Cannot Read, University of Chicago Press, 1932, Pp. 93-95.

...the word. Their argument is that no experimental design can be devised to measure intelligence because it is not a single entity and therefore cannot be measured by a single test.

...the five tests. These tests were designed to measure the ability to understand and use language. The results of these tests are shown in Table 1.

...between words in words. The results of these tests are shown in Table 1. The results of these tests are shown in Table 1.

...reading test scores at the beginning of the study. The results of these tests are shown in Table 1. The results of these tests are shown in Table 1.

1. "An Investigation of Reading Achievement in the Home", <i>Journal of Educational Psychology</i> , Vol. 42, No. 1, 1949, pp. 1-10.	2. "The Effect of Reading on the Development of Language", <i>Journal of Educational Psychology</i> , Vol. 42, No. 1, 1949, pp. 11-20.
3. "The Effect of Reading on the Development of Language", <i>Journal of Educational Psychology</i> , Vol. 42, No. 1, 1949, pp. 21-30.	4. "The Effect of Reading on the Development of Language", <i>Journal of Educational Psychology</i> , Vol. 42, No. 1, 1949, pp. 31-40.
5. "The Effect of Reading on the Development of Language", <i>Journal of Educational Psychology</i> , Vol. 42, No. 1, 1949, pp. 41-50.	6. "The Effect of Reading on the Development of Language", <i>Journal of Educational Psychology</i> , Vol. 42, No. 1, 1949, pp. 51-60.

groups of children were also given a visual auditory learning test in which each child was required to associate nonsense syllables with nonsense forms. Monroe obtained a correlation of .51 plus or minus .093 between the number of errors made in the auditory word-discrimination test and the number of successes in the visual-auditory learning test for the group of non-readers. Only two percent of the reading-defect cases were classed as defective in hearing on the whispered-voice and watch-ticking tests. Monroe concluded a poor score on the auditory word-discrimination test did not necessarily indicate lack of auditory acuity so far as sound intensities were concerned. Instead, she suggests that "the lack of auditory discrimination may be a special defect in hearing just as color-blindness is a special defect in vision"¹. A lack of discrimination of certain sounds may lead to a confusion of words, which in turn, affects reading progress.

Monroe also gave a test for the ability to combine sounds orally in word building to determine to what extent the reading-defect cases were handicapped in their perception of the sound blends of words. She reports that the reading-defect group (269 cases) was significantly different from the control group (126 cases) in the ability to combine the isolated sounds into words. She interprets the bimodal distribution as an indication that the reading-defect cases contain two groups or types, of children--"one of which is decidedly handicapped in auditory perception of sound patterns, and the other which is not so handicapped, but probably has other causative factors in the reading-defect"².

¹. Ibid, P. 95

². Ibid, P. 97

Group of children who also given a visual-auditory learning test in which each child was required to associate nonsense syllables with nonsense letters. Results obtained a correlation of .51 plus or minus .05 between the number of errors made in the auditory word-recognition test and the number of errors made in the visual-auditory learning test for the group of non-matched. Only two percent of the reading-delayed group were almost as accurate in hearing as the orthopedic and non-hearing groups. Results suggested in fact, show that the auditory word-recognition test did not adequately indicate lack of auditory ability for as sound discrimination were concerned. Indeed, the suggestion that the lack of auditory discrimination may be a special defect in hearing just as well-known in a reading subject is "false". A lack of discrimination of certain sounds may lead to a confusion of words, which in turn, affects reading progress.

Results also gave a test for the ability to identify sounds which is well defined as determined by what extent the reading-delayed group were distinguished in their perception of the sound elements of words. The results show the reading-delayed group (150 cases) was significantly different from the control group (125 cases) in the ability to identify the isolated words into words. The independent two-tailed t -test shows an indication that the reading-delayed cases scored at a level of "poor" or "fair" as compared with the control group which is identified as "good" or "excellent".

and the other which is not so well defined, but probably has a qualitative difference in the reading-delayed group.

1.
Robinson in summarizing clinical studies at the University of Chicago Orthogenic School reports that many of the poor readers, though normal in hearing acuity, were unable to discriminate between similar sounds or words. In investigating suitable methods of treatment for these cases, She states that preliminary tests of auditory discrimination were used to discover those children who had been unable to profit by the phonetic approach to beginning reading. Special exercises were then given these handicapped children to develop discrimination before any phonetic training in the reading work was attempted. Speech training was also often necessary in this type of case. Robinson concludes that the preliminary training in auditory discrimination proved valuable for both the speech and reading work which followed.

2.
Murphy and Junkins studied the effectiveness of a formalized teaching program in auditory and visual discrimination. The program consisted of thirty ten-minute exercises in auditory discrimination of word elements, and an equal number of exercises in visual discrimination of word elements. These exercises were given during a six-weeks period to groups of children who had made little or not progress in reading during the first semester of the first grade. One group of fifty children received special training in auditory discrimination; a second group, training in visual discrimination; a third group, the control, received no special training, but continued with their regular reading work.

1. Robinson, Helen M. "Types of Deficient Readers and Methods of Treatment" from "Recent Trends in Reading" Edited by W.S. Gray, Supplementary Educational Monograph, Vol. 49: Pp. 165-166, November 1939.
2. Murphy, Helen A. & Junkins, Kathryn M. "Increasing the Rate of Learning in First Grade Reading", Education, Vol. 62: Pp. 37-39, Sept. 1941.

Johnson in a summary of his studies at the University of Chicago. Orthopedic School reports that many of the poor readers, though normal in hearing acuity, were unable to discriminate between similar words or words. In investigating available methods of treatment for these cases, the author found preliminary tests of auditory discrimination very hard to do. However, these children who had some trouble in profit by the previous approach to beginning reading. Special exercises were then given these handicapped children to develop discrimination before any phonetic training in the reading work was attempted. Special training was also given necessary in this type of cases. Johnson concludes that the preliminary training in auditory discrimination proved valuable for both the speech and reading work which followed.

2. Murphy and Jenkins studied the effect of practice in auditory discrimination in auditory and visual discrimination. The groups consisted of thirty two subjects selected in auditory discrimination of word elements and an equal number of controls in visual discrimination of word elements. These exercises were given during a six-week period to groups of children who had made little or no progress in reading during the first semester of the first grade. The group of thirty children received special training in auditory discrimination; a second group, training in visual discrimination; a third group, the control, received no special training, but continued with their regular reading work.

1. Johnson, Helen M. "Types of Auditory Defects and Methods of Treatment from 'Early Studies in Reading' Edited by H. M. Johnson. Psychological Monographs, Vol. 15, No. 1, 1931, University of Chicago Press.

2. Murphy, Helen M. & Jenkins, George W. "Improvement in Rate of Learning in First Grade Reading by Auditory and Visual Discrimination Training." *Journal of Educational Psychology*, Vol. 22, No. 1, 1931, University of Chicago Press.

The following results of the study were noted:

1. All groups made progress in visual discrimination, but the special visual group made a greater gain than the other two.
2. In auditory discrimination, the special auditory group showed marked progress while the other groups made almost no gain.
3. The learning rate of the two experimental groups as indicated by the retention of words taught was found to be twice as great at the end of the training period as at the beginning. The control group had only improved slightly in this respect.

Both sets of exercises appeared to be effective in increasing the rate of learning to read.

The evidence from these investigations appears to stress the significance of auditory and visual discrimination in determining success in beginning reading. The abilities can be taught. Therefore, the following study is an attempt to measure the effect of planned exercises for developing auditory and visual discrimination on beginning reading when the exercises are given at the beginning of the school year to a normal first grade population.

The following results of the study were noted:

1. All groups made progress in visual discrimination, but the special visual group made a greater gain than the other two.
2. In auditory discrimination, the special auditory group showed marked progress while the other groups made almost no gain.
3. The learning rate of the two experimental groups was influenced by the treatment at which training was given to be better at the end of the training period as on the learning. The control group had only improved slightly in this respect.

Both sets of exercises appeared to be effective in increasing the rate

of learning to read.

The evidence from these investigations appears to show that special-

needs of auditory and visual discrimination in reading is essential in the

reading process. The children can be taught. Therefore, the following

study is an attempt to measure the effect of planned exercises for devel-

oping auditory and visual discrimination in reading. Results show that

exercises are given at the beginning of the school year and suggest that

reading preparation.

CHAPTER II

EXERCISES FOR DEVELOPING AUDITORY AND VISUAL DISCRIMINATION

The lack of auditory discrimination, that is, the power to distinguish similarities and differences in the sound of words, and the lack of visual discrimination--the power to distinguish similarities and differences in the visual form of words--appear to be two causes for confusion in beginning reading. Preliminary studies¹ have shown these skills can be taught and that specific exercises to increase these skills help children who have been failing in reading. This study measures the effectiveness of a formal program in auditory and visual discrimination of word elements as used under regular class room conditions at the beginning of the First Grade.

In grade one the first six weeks are usually devoted to pre-primer work. Ten minutes is the ordinary duration for directed teaching periods. No statistical data are available to support or refute this time allotment. Therefore, it was purely arbitrary with this writer to select as teaching time one ten-minute period daily for thirty successive school days. To regulate somewhat the time for each lesson, as the exercises were built they were used with several groups of children. The material was then expanded or abbreviated to meet the ten-minute allotment.

1. Murphy, Helen A., "An Evaluation of Exercises for Developing Auditory Discrimination", Unpublished M.A. Thesis, Boston University, 1940.
- Junkins, K.M., "The Construction and Evaluation of Exercises for Developing Visual Discrimination in Beginning Reading", Unpublished Ed. M. Thesis, Boston University School of Ed. '40.

The next step was to decide upon the letters to be used and to assign their order of presentation. The Kindergarten Union Vocabulary List¹ and Word Analysis² were used as bases for the selection of letters. The final choice depended upon the frequency of a letter's appearance as an initial sound in both lists. The letters selected were relisted, divided into groups of appropriate length and assigned for weekly and daily presentation. A detailed description and the arrangement follow.

Description of Material

On Page 13 is presented Table I, "Daily Lesson Plans". This gives a comprehensive picture of the sounds, their time allotment, and the order of presentation. The first day's lesson gave practice in listening for similar initial sounds in groups of words. To prevent an established rhythm the lists of words varied in length. All the words but one had the same initial sound; this exception was inserted in a different position in each list. The children, with eyes closed, listened as the teacher dictated the words. Their recognition of the sound which was different from the others was indicated by clapping of hands.

From Table I it may be seen that "f" was the initial sound assigned for the second day, "b" for the third day, and so on through the whole category of material. The letters q, x, and z are not presented for two reasons. They are not common in the vocabulary lists used as a basis for this study, and they appeared to offer unusual difficulty as initial sounds. Since isolated

1. Child Study Committee of International Kindergarten Union, "A Study of the Vocabulary of Children before Entering the First Grade", 1928.

2. Durrell, Donald D., Improvement of Basic Reading Ability, World Book Co. 1940

The next step was to decide upon the factors to be used and to arrange
their order of presentation. The first factor listed was "the time"
and analysis was used as basis for the selection of factors. The time
factor depended upon the frequency of a factor's appearance as an isolated
word in each list. The factors selected were selected, divided into
groups of appropriate length and used for study and daily presentation.
A detailed description of the arrangement follows.

Description of Material

The factor is presented in a "family" manner. This factor is
comprehensive picture of the family, their own children, and the place of
presentation. The first step is to present the family in the form of a
picture. The picture is a group of words. To present an isolated word the
first of words varies in length. All the words but one are the same length
and the last word is a different length. It is only this
word which is presented. The word is presented in the family picture.
The picture is presented in the family picture. The picture is presented in the
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TABLE I

Daily Lesson Assignments			
<u>Time</u>	<u>New Letters</u>	<u>Review Letters</u>	<u>Remarks</u>
<u>First Week</u>	Listening for Similar initial sounds		
1st day			
2nd day	"f"		Initial sound
3rd day	"b"		" "
4th day	"h"		" "
5th day		"f", "b", "h"	" sounds
<u>Second Week</u>			
6th day	"g", "c"		" "
7th day	"l", "m"		" "
8th day		"g", "c", "l", "m"	" "
9th day		f, b, h, b, c, l, m	" "
10th day	f, b, g, l, m		Final sounds
<u>Third Week</u>			
11th day	d, j		Initial sounds
12th day	k, n		" "
13th day	p, r		" "
14th day		d, j, k, n, p, r	" "
15th day	d, k, n, p, r		Final Sounds
<u>Fourth Week</u>			
16th day	w		Initial Sound
17th day	s, t		" "
18th day	y, v		" "
19th day		v, w, s, t, y	" "
20th day	s, t, y		Final Sounds
<u>Fifth Week</u>			
21st day	th, wh		Initial Blends
22nd day	ch		Initial & Final
23rd day	sh		" "
24th day	dr, tr, gr, br, fr		Initial Blends
25th day	cl, fl, pl		Initial blends
<u>Sixth Week</u>			
26th day	own, ee		Rhyming sounds
27th day	all, en		" "
28th day	ay, ill		" "
29th day	un, is		" "
30th day	ell, in, out		" "

words are avoided in the usual reading program, the words were presented in context. Monotony in procedure was prevented by the creation of nineteen different devices. Emphasis was placed on auditory and oral presentation of sounds, with occasional blackboard presentation of words and letters. The complete manual of exercises will be found in Appendix A. The sample lessons below illustrate the general method. The regular classroom teacher conducted the lessons.

A description of the introduction of "f" as an initial sound is given in detail as follows:

"I shall write some words on the board. I want you to listen carefully as I say them--for, feet, fix. (Teacher writes and speaks simultaneously) These words all begin with "f". (Teacher gives sound) I shall say some names that begin with "f" (sound). You say each one after me. Let me hear "f" every time".

Fred, Francis, Frank, Florence were dictated one at a time. The teacher said the words clearly stressing the first sound. The children repeated each word after her. The numbers--four, five, fourteen, fifteen, forty, fifty--were presented in the same manner.

The teacher then said, "Do you know what riddles are? I shall tell you something about a word. You try to guess the word. The answers to all the riddles begin with 'f'."

Here are the riddles:

Tell me something that grows on trees and is good to eat. (fruit)

Tell me something you eat with. (fork)

Tell me something that grows in a garden. (flowers)

Tell me the name of an automobile. (Ford)

Tell me what we eat. (food)

Tell me what the farmer has to keep his cows in the field. (fence)

The next step was to have each child tell as many words as he knew beginning with "f".

In introducing the initial sound "b", names of similar things were dictated. Table II, following, is self explanatory.

TABLE II

<u>Things to eat</u>	<u>Toys</u>	<u>People</u>	<u>Things that Fly</u>	<u>Animals</u>
bacon, berries	ball	baker	birds	bears
banana, biscuits	balloon	blacksmith	bluebirds	billygoats
beans, blackberries	baseball	bookkeeper	bluejays	buffaloes
beef, buns	bat	boys	bumblebees	bulldogs
beets	blocks	butcher	butterflies	bunnies

A game gave further practice with this sound. The letter "b" had been previously written several times on the blackboard. There was one less letter than the number of children playing the game. The Children were directed to think of a word beginning with "b". After the teacher gave the signal, "Go", each child who had thought of a word ran and stood in front of one of the letters on the blackboard. The child left without a place was "It". Then, to check their words, each child said his in turn. The game was played several times with the children giving different words each time.

The work on "h" was varied by having the children complete sentences with words which began with "h". For example:

Tell me the name of the author.

Tell me the name of the author.

Tell me the name of the author.

Tell me the name of the author.

The name of the author is the name of the author.

The name of the author is the name of the author.

The name of the author is the name of the author.

The name of the author is the name of the author.

The name of the author is the name of the author.

Table 1

Author	Title	Year	Genre	Category
John, David	John, David	1911	John, David	John, David
John, David	John, David	1911	John, David	John, David
John, David	John, David	1911	John, David	John, David
John, David	John, David	1911	John, David	John, David
John, David	John, David	1911	John, David	John, David

The name of the author is the name of the author.

The name of the author is the name of the author.

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The name of the author is the name of the author.

The name of the author is the name of the author.

The name of the author is the name of the author.

Witches are out on Halloween.

We wear hats on our heads.

If you are late, you must hurry.

Rabbits can run and hop.

Little Boy Blue blew his horn.

As has been noted, review lessons were also planned. In reviewing f, b, and h, the letters were written on the board. The teacher dictated a series of words which included some beginning with each of these letters and the children gave the initial sound in the words as the teacher dictated.

A game was played in which two children were selected to be "It". These two players stood at the blackboard. As the following words were dictated: baby, big, hat, forget, found, funny, hair, hen, blue, bite--the children found the initial letter of the word on the board. The child who found the letter first made one point. If a wrong letter was selected, the child who noticed it was "It". Several groups of words were provided for the exercise.

A variation of the use of the riddle appeared in the lesson on "g". The children answered questions with words that begin with "g". For instance,

What are windows made of? (glass)

What do you have to keep your hands warm? (gloves)

What animal has horns and can butt? (goat)

Who was the little girl who went to the Three Bears' house? (Goldilocks)

Lessons included the listening for final sounds, as well. The procedure was the same as for teaching initial sounds. A game adapted from "Simon-Says" began with the children standing. The teacher dictated a series of words and the children, in concert, gave the final sound. If a child gave an incorrect

Children are not on the board.

No more cards on the board.

If you are late, you must hurry.

Children are not on the board.

Little boy like his name.

As has been noted, review lessons were also planned. In reviewing C, D, and E, the letters were written on the board. The teacher dictated a series of words which included some beginning with each of these letters and the children gave the initial sound in the words as the teacher dictated.

A game was played in which the children were selected to be "It". Three boys stood at the blackboard. As the following words were dictated: baby, big, hat, forest, found, lamp, hair, pin, blue, fifteen, the children found the initial letter of the word on the board. The child who found the letter first made one point. If a wrong letter was selected, the child who selected it was "It". Several groups of words were provided for the exercise. A variation of the use of the rhyme appeared in the lesson on "F". The children answered questions with words that begin with "F". For instance,

What are windows made of? (Glass)

What do you have to keep your hands warm? (Gloves)

What animal has horns and can bark? (Goat)

Who was the little girl who went to the Three Bears' house? (Little Red Riding Hood)

Lessons included the listening for final sounds, as well. The presentation was the same as for teaching initial sounds. A poem entitled "Sound-Play" began with the children standing. The teacher dictated a series of words and the children, in answer, gave the final sound. If a child gave an incorrect

sound, he had to sit. The child who remained standing the longest won the game.

On the fifteenth day a game was introduced which combined work on initial and final sounds. The letters d,k,n,p, and r, were written on the blackboard. The teacher gave the following directions:--"I'll say a word that begins with one of these sounds (pointing to the letters on the board) and I want you to think of a word that ends with the sound my word begins with. I will point to the letter on the board as I say the word. The one who gets a word first may give another word for someone else to match at the end. For instance, if I said red, you could say their because red begins with 'r' and their ends in 'r'. Let's try one together. Not. You want a word that ends in what letter?" Help was given if no one was able to get "n". The game continued from the word Dad.

Baseball proved an interesting drill for s,t, and y. A diagram of a ball field was made on the blackboard with "s" for first base, "f" for second, and "y" for third. The child began at first base and gave a word ending with "s", then moved to second and so on. The teacher made the first "home-run" to show how it was played.

Another feature introduced into the program was the use of rhymes. Rhyming words were introduced through familiar Mother Goose Lines such as,

"Billy, Billy, come and play

While the sun shines bright as day."

"Yes, my Polly, so I will,

For I love to please you still."

Here was the basis for words rhyming with "play" and with "will". After reading the rhymes, the teacher dictated several words rhyming with "will" which the children repeated, then with "play". Further practice was given by having the children complete sentences with words rhyming with "will", and with "play", as

Jack went up the hill with Jill.

When you are hiding you must keep very still.

When you buy something at the store you must pay.

The color of the squirrel is gray.

The ladder furnished a new interest in the rhyming lesson. A child went up the ladder by saying a word which rhymed with "will" on each step of the ladder.

Every day's lesson began with the careful pronunciation of the selected words. These exercises are chosen as samples from the various lessons. A complete copy of the thirty-days teaching exercises may be found in Appendix A, Page 781 .

DESCRIPTION OF VISUAL DISCRIMINATION EXERCISES¹

These exercises were planned for the purpose of training children to see similarities and differences in words and word elements. The following types of exercises were included in the material:

1. Matching single letters
2. Matching pairs of letters
3. Matching parts of words
4. Finding words in context

1. Jenkins, Kathryn M., Copyright 1940

There are the basis for words ending with "play" and with "will". After reading the figures, the teacher pointed out the words ending with "will" which the children repeated, then with "play". Further practice was given by having the children complete sentences with words ending with "will", and with "play".

Last week of the first class.

When you are sitting you must keep your feet.

When you are standing at the front you must keep.

The color of the squirrel is grey.

The teacher furnished a new lesson in the Spanish lesson. A child went up the ladder by saying a word which rhymed with "will" or with "play" of the ladder.

Every day's lesson began with the careful pronunciation of the selected words. These exercises are chosen as examples from the various lessons. A complete copy of the first-day lesson exercises may be found in Appendix

Page 31.

REVISION OF THE FIRST DAY'S LESSON

These exercises were chosen for the purpose of giving children to see similarities and differences in words and word structure. The following exercises were included in the revision:

1. Reading the lesson
2. Repeating words of lesson
3. Repeating words of lesson
4. Repeating words in sentence

1. Reading the lesson

5. Matching ideas expressed by words

6. Writing letters

7. Making words

All the words used were chosen from either the Gates Primary Word List¹ or International Kindergarten Union List². Mastery of the letters and words presented was not expected. It was hoped rather than the matching exercises would lead the children to see similarities and differences in words and word elements. Pictures were included in some of the lessons, to give meaning to the words.

Table III gives a comprehensive picture of the material and the order of presentation.

TABLE III

First Week

1st day	Matching single letters
2nd day	Finding pairs of letters
3rd day	Matching two letters words from flash cards
4th day	Selecting matching words from a group of words
5th day	Finding words in context

Second Week

6th day	Matching words on blackboard
7th day	Matching and copying single letters
8th day	Matching names of objects
9th day	Selecting two similar words in group of four words
10th day	Matching names of vegetables

Third Week

11th day	Matching names of things in a house
12th day	Finding like parts of words
13th day	Matching the final letter of a word in one column with the initial letter of a word in a second column
14th day	Selecting pairs of like words
15th day	Matching words on flash cards with words on page

6. Remaining letters arranged by words

5. Remaining letters

4. Remaining letters

All the words used were given. The first two were given in the first

or international classification of the letters and words

presented was not expected. It was hoped that the remaining letters

would lead the children to see that the letters in words are

word elements. (Letters were given in the form of the letters, to give

meaning to the words.

Table III gives a comprehensive picture of the material and the order

of presentation.

Table III

First Week

1st day	Remaining letters in words
2nd day	Remaining letters of letters
3rd day	Remaining letters of letters from first words
4th day	Remaining letters of letters from first words
5th day	Remaining letters of letters from first words
6th day	Remaining letters of letters from first words

Second Week

1st day	Remaining letters of letters from first words
2nd day	Remaining letters of letters from first words
3rd day	Remaining letters of letters from first words
4th day	Remaining letters of letters from first words
5th day	Remaining letters of letters from first words
6th day	Remaining letters of letters from first words

Third Week

1st day	Remaining letters of letters from first words
2nd day	Remaining letters of letters from first words
3rd day	Remaining letters of letters from first words
4th day	Remaining letters of letters from first words
5th day	Remaining letters of letters from first words
6th day	Remaining letters of letters from first words

Fourth Week

- 16th day Finding letters in words
- 17th day Matching names of objects
- 18th day Matching and writing single letters
- 19th day Selecting one word from group of three with different initial letter
- 20th day Selecting words with the same two ending letters

Fifth Week

- 21st day Matching words in context
- 22nd day Matching words denoting like action
- 23rd day Copying names of objects
- 24th day Matching beginning of words with single letters
- 25th day Matching names of objects and ideas expressed by words

Sixth Week

- 26th day Matching initial letters of words with single letters
- 27th day Writing words
- 28th day Classification of ideas expressed by words
- 29th day Matching words on flash cards to words on paper
- 30th day Combining word parts

A complete copy of the exercises and the Teaching Manual may be found in the Appendix, Page 130.

Fourth Week

18th day	Matching letters in words
17th day	Matching names of objects
16th day	Matching and writing simple letters
15th day	Matching one word from group of three with illustration
14th day	Initial letters
13th day	Matching words with the same two ending letters

Fifth Week

21st day	Matching words in context
20th day	Matching words according to illustration
19th day	Copying names of objects
18th day	Matching beginning of words with simple letters
17th day	Matching names of objects and those expressed by words

Sixth Week

26th day	Matching initial letters of words with simple letters
25th day	Writing words
24th day	Classification of items expressed by words
23rd day	Matching words on flash cards to words on paper
22nd day	Combining word cards

A complete copy of the exercises and the Teaching Language key is found

in the Appendix, page 130.

CHAPTER III

PLAN OF THE EXPERIMENT

Construction of Tests

Before any teaching could be done with the material it was necessary to find some means of measuring the various abilities which are involved in beginning reading. Those most commonly considered as influencing reading progress are mental age, learning rate, auditory discrimination, visual perception and motor coordination. Research revealed no standard tests suitable for the purpose of the experiment. Therefore, the writer undertook the construction of tests which would measure: 1, learning rate, 2, visual perception, and 3, auditory discrimination.

Learning Rate Tests

In this study learning rate is used to mean the number of words the child can remember as sight words one hour after the teaching period. To test the learning rate five words were selected from the Kindergarten Union Vocabulary List¹. Such words as "doughnut" were selected because they had much meaning for children. Others, like "suppose", were selected because they are not so colorful and therefore have little significance for children. Words were of varying length and were composed of many different sound elements. The complete list is given below in TABLE IV. A second list of eight words was built for the test of learning rate at the close of the experiment, and a third list was selected for June. The words chosen appear in TABLE IV and were selected according to the same procedure previously described.

1.

I K V list

TABLE IV
LEARNING RATE TESTS

September	November	June
doughnut iron pineapple suppose machinery	icicles freight straighten excuse magazine camel envelope biscuits	toothbrush bracelet celery flowerpot chocolates electricity against mattress

Visual Perception Test

In this study visual perception means the ability to perceive the similarities and differences in words and word elements. To test visual perception fifty-two items were selected:

(a) The first twenty-six items were groups of letters. The first group readily perceived, gave m, s, o, g, y--from which g was to be selected. The groups increased in perceptual difficulty until finally there was presented d, p, g, g, b--from which b was to be selected.

(b) The second section gave words in groups of five, beginning with --at, ball, ill, all and fall, from which "all" was to be selected. The groups were made increasing difficult until this group was given--contact, contain, contract, capital and convict--from which capital was to be selected.

TABLE IV

LEARNING RATE TESTS

September	November	June
doghouse	islands	footprints
iron	treasure	treasure
pinapple	strawberry	celery
supper	house	flowerpot
machinery	magazine	chocolate
	animal	elephant
	envelope	eggplant
	display	barometer

Visual Perception Test

In this study visual perception means the ability to recognize the similarities and differences in words and word elements. To test visual perception fifty-two items were selected:

(a) The first twenty-six items

were groups of letters. The first group readily perceived, from a, b, c, d, e, f, g, h, i, j, k, l, m, n, o, p, q, r, s, t, u, v, w, x, y, z, was to be selected. The group perceived in reverse order, z, y, x, w, v, u, t, s, r, q, p, o, n, m, l, k, j, i, h, g, f, e, d, c, b, a, was to be selected.

(b) The second section gave words

in groups of four, beginning with cat, ball, ill, and full, from which "all" was to be selected. The group was then increased slightly with this group was given: mountain, bottom, northeast, and southwest, from which capital was to be selected.

Smith's¹ study concerning the relative order of difficulty of matching letters was used as a basis for the arrangement of this test. A complete copy of the test with directions for administering and scoring it appears in the Appendix, Page 199.

Auditory Discrimination Test

In this study auditory discrimination is defined as the ability to perceive similarities and differences in the sound of words.

A test was built consisting of rows of pictures--four in each row. The first twenty rows tested initial sounds, the next ten tested final sounds, and then there were five rows of rhymes. All of the words used as guide words as well as those illustrated in the pictures were taken from the International Kindergarten Vocabulary List². Each letter of the alphabet, except o, q, u, x, y and z, was included in the list of initial sounds. At least two of the four words in each row began with the same sound as the guide word. Some had three with similar initial sounds, some four. The first word in each row corresponded with the guide word. The incorrect words were in varied positions to avoid the possibility of a set pattern. A copy of this test may be found in the Appendix, Page 192.

In June 1940 the writer administered this test in mimeographed form to the same population that had been in the experiment during the year³ to find if the technique was suitable for class administration. The children appeared to enjoy the game and were able to follow the directions.

1. Smith, Nila B. "Matching Ability as a Factor in First Grade Reading", Journal of Educational Psychology, Vol. 19: Pp. 560-571, November 1928.

2. I.K.U.

3. Murphy, Helen A. Unpublished M.A. Thesis, Boston University, 1940.

1
The study concerning the relative value of different methods of testing
ladders was used as a basis for the development of this test. A complete
copy of the test with illustrations for calculating and scoring is given
in the appendix, page 100.

Additional Information

In this study, the following is given as the basis for the
relative classification and differences in the sound of words.
A test was built consisting of two of the same words in each pair. The
first group was tested in the first round, the second group in the second
round. There were five pairs of words. All of the words were in pairs
with as well as those illustrated in the picture and were in pairs
International Phonetic Alphabet (IPA) symbols. The first group of words
except of a, e, i, o, u, and y, was included in the list of English words. At
least one of the two words in each pair was in the same group as the
other word. Some had three or more initial sounds, some four. The
first word in each pair was represented with the same word. The second word
was in another position to avoid the possibility of a word being
of this kind may be found in the appendix, page 100.
In June 1960 the writer administered this test in a classroom to the
the same population that had been in the experiment during the year in 1959.
If the technique was suitable for other populations, the entire experiment
it is only the same and was able to follow the instructions.

1. This study was a study in word sound testing.
2. The study was a study in word sound testing.
3. The study was a study in word sound testing.

The test was scored by rows. That is, a row had to be entirely correct to count as one.

TABLE V --following--shows the relationships of this test with other tests used in the preliminary study.

TABLE V

RELATIONSHIPS WITH OTHER TESTS*

Factors	Number	r	P.E.
Group Auditory & Ind. Auditory	91	.657	.05
Group Auditory & Reading	82	.628	.06

*Product-moment method of correlation

Statistically both of these correlations are positive and relatively high.

In September 1941 the writer gave the test to a group of twenty-six children just beginning the first grade. It took about thirty-five minutes to administer and was interesting enough to the children so that they were willing to complete the task. The data from this group and the June 1940 group, referred to above, was analyzed to find the relative order of difficulty of the various functions measured. TABLE VI shows the results of this study.

TABLE VI

ERRORS ON AUDITORY TEST

Function	Percent of Error	
	Group I	Group II
Initial Sounds	14.8	23.0
Initial Blends	20.0	32.0
Rhymes	26.0	31.0
Final consonants	39.0	40.0

In each case the initial sounds had the fewest errors. Then came the initial blends, the rhymes, and last of all the final consonants.

The test was scored by rows. That is, a row had to be entirely correct to count as one.

TABLE V--Following shows the relationship of this test with other

tests used in the preliminary study.

TABLE V

RELATIONSHIPS WITH OTHER TESTS

Factors	Number	r	S.E.
Group Auditory & Reading	22	.838	.08
Group Auditory & Lab. Auditory	21	.837	.08

*Product-moment method of correlation

Statistically both of these correlations are positive and relatively

high.

In September 1941 the writer gave the test to a group of twenty-six children just beginning the first grade. It took about thirty-five minutes to administer and was interesting enough to the children so that they were willing to complete the task. The data from this group and the June 1940 group, referred to above, are analyzed to find the relative order of difficulty of the various functions measured. TABLE VI shows the results of this study.

TABLE VI

RESULTS OF AUDITORY TEST

Function	Group I	Percent of Error	Group II
Initial Sounds	14.8		22.2
Initial Blends	20.0		22.0
Phonemes	25.0		25.0
Final consonants	20.0		40.0

In each case the initial sounds had the lowest error. Then come the initial blends, the phonemes, and last of all the final consonants.

In revising the test the vowels as initial sounds were omitted. The initial blends were placed after the initial consonants. Then came the final sounds and rhymes so that the directions would be given only once for initial sounds and once for final sounds. The revised form, which was used to measure auditory discrimination in this study consists of four practice rows for initial sounds, twelve rows testing initial consonants, five rows testing initial blends, one practice row of final consonants, nine rows testing final consonants and five rows testing rhymes. A copy of the test with the directions for administering it may be found in the Appendix, Page 196.

Individual Oral Reading Test

The pre-primers and primers of the three different basal reading systems which were being taught in the various classrooms included in the experiment were checked for common vocabulary. One hundred and seven words were found to occur in all of the books. Two paragraphs were written using ninety-eight of those words--one on "toys" and the other about "a birthday". A list of twenty-five words included the nine words from the common vocabulary not in the paragraphs, ten words which had not been taught but had similar phonetic elements to words which had been taught, and six words from the Donnelly¹ study which had been the most difficult at the end of the sixth month of the first grade. A copy of the test and the individual scoring sheet may be found in the Appendix, Page 200.

Selection and Status of Population for Experiment

The Director of the Parochial Schools and the Superintendent of the Public Schools in a large Eastern city volunteered to open their schools for

¹. Donnelly, H.E. "A Study in Word Recognition Skills in Grade One", Unpublished Ed. M. Thesis, Boston University 1932.

the experiment. Five hundred and forty children in thirteen first grade classrooms were given the preliminary battery of tests. The schools were combined into four groups to give approximate equality in learning rate, mental age, chronological age, auditory and visual scores. The combined group was given both the auditory and visual exercises during the regular reading time. The visual group had only the visual exercises and the auditory group had only the auditory exercises, while the control group had no specific training.

Method of Conducting the Testing Program

The writer began the preliminary testing program on September 9, 1941, the second day school was in session. The first task was to obtain the learning rate for each child. The selected words were taught as sight words. The teaching was done in the regular classrooms to groups varying from seven to fifteen in number. Identical procedures were followed in all groups. As each word was presented it was written on the board. Its meaning was given through as many experiences as possible. Flash cards containing the words had been made and different children were given a card to match with the word on the board. After each new word was presented, an opportunity was given to review the previous words on the list. The children were required to read the words as they found them. Many practices were given to individual children to match the cards to the words on the board when they were told what the word said. The next step was to have individual children find the word called for. If a child could not do this, he was given the card again to match. The writer then pointed to words and called on different members of the group to tell what the word said. The children were then allowed to erase any word they could read. Finally, the group was tested with flash

the experiment. Five hundred and thirty children in thirteen first grade
classrooms were given the preliminary reading program in 1955. The results were
obtained into four groups of 100 approximately equally in learning rate,
mental age, chronological age, maturity and other factors. The results
group was given both the auditory and visual materials during the program.
Reading time. The visual group had only the visual materials and the
auditory group had only the auditory materials while the control group had
no specific training.

Method of conducting the reading program

The writer began the preliminary reading program in December, 1955.
The second day school was in session. The first task was to obtain the
learning rate for each child. The selected words were taught to each child.
The teaching was done in the regular classroom by groups varying from three
to fifteen in number. Identical procedures were followed in all groups. A
word was presented in a card on the board. The word was given
through an amplification as possible. First, words containing the word
had been made and different children were given a card to read with the
word on the board. After each word was completed, an identification was
given to review the previous words on the list. The children were then
to read the words as they were given. Any questions were given at this time.
At this time to make the words to the words of the board after they were told
what the word was. The next step was to have each child read the word
word called for. A little while later the word was given the word called
to read. The word was called to read and called to different children
of the group to call the word out. The children were then allowed to
read and write the words again. Finally, the group was called when they

cards on all five words--reading the words in concert. The cards were numbered so that it was possible to give equal practice for each word. This teaching period lasted for twenty minutes. An hour after this teaching period each child was tested individually by the writer on his power to recognize the five words. The number of words which he could read from cards was considered his learning rate. The writer also took the learning rate at the close of the experiment and in June, using the same procedure each time.

Both the initial and final visual and auditory tests were given by Mrs. Wilbur Harris, a teacher with first grade experience. These tests were given under regular classroom conditions and were scored by the writer.

The Mental Ages were obtained by averaging the scores on the Detroit First Grade Intelligence Test^{1.} and the Pintner Cunningham Mental Test^{2.} The Detroit test was given the public schools by a person in the system trained in testing. The writer gave the Pintner Cunningham test in the public schools and both tests in the parochial schools as well as doing the scoring.

The Lee-Clark Reading Readiness Test^{3.} was given at the beginning and at the close of the experiment in the regular classrooms by the writer.

The Detroit Word Recognition Test^{4.}, Form A, was given and scored by the writer at the close of the experiment and Form B was given and scored by the writer in June to obtain reading scores for each child.

1. Published by World Book Co.

2. Published by World Book Co.

3. Published by California Test Bureau

4. Published by World Book Co. 1925

The individual oral inventory reading test was given in February by the writer assisted by a group of ten senior students from the Rhode Island College of Education. These students were given specific directions and allowed practice under guidance of the writer before beginning the testing. Each child read the test orally to an examiner. A child was helped with a word if he delayed five seconds and that word was checked as incorrect. A mimeographed copy of the test was used for each child to record the errors. The writer scored all the tests.

The results of these several tests have been studied and the data analyzed in Chapter IV of this thesis.

Teaching Procedure

To initiate the teaching program the writer met with the primary supervisors and teachers of the children in the experiment before any of the actual work was begun. The purpose and plan of the study was explained to them and their cooperation was readily secured. The administering of the preliminary tests took three weeks and the teaching lessons began in October. Ten minutes a day was taken from the reading time of each classroom in the auditory and visual groups and twenty minutes from the reading time of the combined group to do the prescribed teaching. Several times during the six weeks of the experiment the writer visited the teachers to get their reactions to the materials. This informal contact permitted the evaluation of the material. It was the consensus of opinion that it was practical, easily handled teaching material and enjoyable to children.

CHAPTER IV

ANALYSIS OF DATA

The data were analyzed to study the effect of the combination of planned exercises for developing auditory and visual discrimination; of planned exercises for developing visual discrimination; and of planned exercises for developing auditory discrimination in beginning reading on

1. The learning rate at the close of the experiment and at the close of the school year in June
2. The actual reading score at the close of the experiment, in February and in June
3. The change in the child's visual perception of words at the close of the experiment, and
4. The change in the child's auditory discrimination between likenesses and difference in words at the close of the experiment.

Sex differences were also studied in these same four functions.

The data of the groups were further analyzed to study the effect of the specific auditory and visual training on the individual differences within the groups.

The data of the entire population in September were analyzed to find the relationship between the various functions as possible predictive measure of success in beginning reading or as a means for grouping in beginning teaching. The following relationships were studied:

1. Mental age and visual perception
2. Mental age and auditory discrimination
3. Mental age and learning rate
4. Visual perception and visual memory and perception.

CHAPTER IV
RESULTS OF DATA

The data were analyzed to study the effect of the treatment of planned exercises for developing writing and visual discrimination of planned exercises for developing visual discrimination and of planned exercises for developing auditory discrimination in beginning reading in

1. The learning rate of the class of the experiment and at the class of the control group in time
2. The total reading score at the class of the experiment in January and in June
3. The change in the child's visual perception of words at the class of the experiment and
4. The change in the child's auditory perception of words at the class of the experiment and

for differences were also studied in these two treatments.

The data of the groups were further analyzed to study the effect of the specific writing and visual training on the individual differences within the groups.

The data of the entire population in September were analyzed to find the relationship between the various treatments and reading performance measure at months in beginning reading or at a range for groups in beginning reading. The following relationships were studied:

1. Visual age and visual perception
2. Visual age and auditory discrimination
3. Visual age and learning rate
4. Visual perception and visual memory and perception

The relationship between learning rate and reading success in June was studied for:

1. The entire population, and
2. The control group alone.

Initial Measures--Matching Groups

During September a battery of six tests were given to 540 children in thirteen first grades. Mental age was determined by averaging the scores on the Detroit Beginning First-Grade Intelligence Test (Revised) Form B¹ and the Pintner-Cunningham Primary Test Form A². Group tests of auditory and visual discrimination and the Lee-Clark Reading Readiness Test³ together with a learning-rate test of five words completed the battery.

TABLE VII shows the results of the September testing.

1. Published by World Book Co. 1937
2. Published by World Book Co. 1939
3. Published by California Test Bureau, 1931

The relationship between learning rate and reading accuracy in man

was studied for:

1. The entire population, and
2. The control group alone.

Initial Measurement-Reading Groups

During September a battery of six tests were given to 50 children in Whittier first grade. Mental age was determined by averaging the scores on the Detroit Beginning First-Grade Intelligence Test (Detroit) Form 1 and the Pinney-Youngman Primary Test Form 1. Group tests of auditory and visual discrimination and the Iowa-Child Reading Test were given together with a learning-test test of five words comprising the battery.

TABLE VII shows the results of the September testing.

1. Published by World Book Co. 1937
2. Published by World Book Co. 1939
3. Published by California Test Bureau, 1931

TABLE VII

RESULTS OF THE SEPTEMBER TESTS

School	Number	Learning Rate		Mental Age		Auditory		Visual		Lee Clark	
		Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
1.	51	2.17	1.33	67.55	7.9	26.	15.	15.78	8.5	26.6	12.15
2.	53	2.33	1.39	74.00	8.85	44.5	17.6	16.8	3.4	35.5	10.1
3.	31	1.72	.90	62.25	5.4	15.1	8.5	12.9	2.6	22.3	10.25
4.	56	2.13	1.03	72.05	8.30	38.35	15.05	10.94	5.46	26.15	13.05
5.	31	1.6	1.04	67.25	8.1	19.95	12.6	13.9	3.2	25.55	11.1
6.	53	1.78	1.12	67.55	6.8	29.5	13.15	16.46	3.76	21.25	13.0
7.	32	2.03	1.17	65.00	8.0	30.6	11.7	14.7	3.8	30.5	11.5
8.	51	2.18	1.18	72.25	6.5	27.5	16.0	14.76	6.04	29.95	12.10
9.	46	1.45	.82	68.25	5.3	25.45	9.85	14.96	4.54	25.55	11.75
10.	26	1.96	1.00	62.9	5.44	25.9	8.55	13.22	5.6	21.05	9.5
11.	48	1.98	1.29	85.12	9.95	28.8	17.4	16.2	2.74	34.45	13.35
12.	21	1.72	.87	67.57	1.13	29.7	11.85	12.44	2.54	23.95	11.55
13.	<u>41</u>	1.16	.83	65.95	8.5	29.15	11.85	14.8	3.8	27.15	14.35
Total	540										

The groups were roughly matched on the basis of the above data. The schools were combined to give approximate equality in learning rate, mental age, chronological age, auditory and visual scores.

The one hundred thirty-five children in schools 1, 2 and 3 were given the combined auditory and visual training and are the combined group in this study.

The one hundred forty children in schools 4, 5 and 6 were given the visual training and are the visual group in the study.

The one hundred twenty-nine children in schools 7, 8 and 9 were given the auditory training and are the auditory group.

The one hundred thirty-six children in schools 10, 11, 12 and 13 were given no specific training and are the control group.

Individual children were matched in each group. The learning rate and mental age were matched first because in the opinion of the writer these appeared to be the most important variables. Three months leeway was allowed in matching the mental ages. The other functions were matched as closely as it was possible to do it.

TABLE VIII shows the results of the initial testing on the matched groups.

TABLE VIII

INITIAL TESTING OF MATCHED GROUPS (75 in each group)

Group	L.R.		M.A.		C.A.		VIS.		AUD.		CLARK	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
Comb. M. F. 41 34	1.92	1.23	71.18	7.89	73.54	5.28	16.40	3.96	36.05	18.20	30.50	12.40
Vis. M. F. 33 42	1.92	1.16	71.00	6.54	73.66	6.12	14.59	4.32	34.00	15.55	26.80	11.05
Aud. M. F. 38 37	1.92	.98	71.03	7.02	71.17	5.58	15.81	3.00	26.90	13.05	31.10	10.15
Cont. M. F. 39 36	1.92	.98	71.30	9.15	72.76	5.46	14.35	3.00	27.70	13.25	26.80	12.15

The mean learning rate of the four groups is identical. There is .3 of a month difference between the highest and lowest mean mental age. The advantage is in favor of the control group.

The mean chronological ages of the combined, visual and control groups are within .9 of a month of each other, the visual group being the highest. The mean chronological age of the auditory group is 1.59 months lower.

The mean scores of the visual tests are within 2.22 points of each other, the combined group being the highest and the control group the lowest. The total possible score on this test was 26.

The mean scores of the auditory tests are within 9.15 points of each other. The score of the combined group is the highest and that of the auditory group the lowest. The total possible score on this test was 80.

The mean scores of the Lee Clark Tests are within 4.3 points of each other, the highest being the auditory group and the visual and control groups being equal and the lowest. The total possible score on this test was 50.

All of the analysis of data for this study was done with these matched groups.

Growth in Learning Rate

In this study the number of words a child recognized an hour after a twenty-minute teaching period is considered his learning rate.

TABLE IX shows the learning-rate test results for September.

TABLE IX
SEPTEMBER LEARNING-RATE TESTS

Group	No.	Mean	S.D.	S.E. _m	Diff.	S.E. Diff.	C.R.
Comb.	75	1.92	1.23	.14	0		
Cont.	75	1.92	.98	.11			
Vis.	75	1.92	1.16	.13	0		
Cont.	75	1.92	.98	.11			
Aud.	75	1.92	.98	.11	0		
Cont.	75	1.92	.98	.11			

The mean scores of all of the four groups were identical.

The mean learning rate of the four groups is 1.00. There is a significant difference between the highest and lowest mean learning rates.

The advantage is in favor of the control group.

The mean chronological ages of the combined, visual and auditory groups are within .5 of a month of each other, the visual group being the highest.

The mean chronological age of the auditory group is 1.50 months lower.

The mean scores of the visual group are within 2.50 points of each

other, the combined group being the highest and the control group the lowest.

The total possible score on this test was 20.

The mean scores of the auditory group are within 2.50 points of each

other. The score of the combined group is the highest and that of the

auditory group the lowest. The total possible score on this test was 20.

The mean scores of the four groups are within 2.50 points of each

other, the highest being the auditory group and the visual and combined groups

being equal and the lowest. The total possible score on this test was 20.

All of the analysis of variance for this study was done with three repeated

groups.

Growth in Learning Rate

In this study the amount of words a child repeated was not after a

pre-determined learning period's completion but learning rate.

Table 12 shows the learning rates for the four groups.

TABLE 12
LEARNING RATES FOR THE FOUR GROUPS

Group	Visual	Combined	Auditory	Control
Mean	1.00	1.00	1.00	1.00
Standard Deviation	0.50	0.50	0.50	0.50
Range	0.50	0.50	0.50	0.50
Minimum	0.50	0.50	0.50	0.50
Maximum	1.50	1.50	1.50	1.50

The mean scores of all of the four groups were identical.

TABLE X shows the results of the learning rate tests at the close of the experiment in November.

TABLE X
NOVEMBER LEARNING RATE TESTS

Group	No.	Mean	S.D.	S.E. _m	Diff.	S.E. _{Diff}	C.R.
Comb.	75	4.53	2.20	.25	1.94	.29	6.68
Cont.	75	2.59	1.47	.17			
Vis.	75	4.54	1.92	.22	1.95	.27	7.22
Cont.	75	2.59	1.47	.17			
Aud.	75	4.28	1.86	.21	1.67	.26	6.42
Cont.	75	2.59	1.47	.17			

The mean score of the combined group, which was given both auditory and visual training, was 4.53 words in November compared to 2.59 words for the control group. The critical ratio was 6.68, a statistical significant difference in favor of the combined group.

The mean score of the visual group, which was given only the visual training, was 4.54 words in November compared to 2.59 for the control group. The critical ratio was 7.22, a statistical significant difference in favor of the visual group.

The mean score of the auditory group, which was given only the auditory training, was 4.28 in November compared to 2.59 for the control group. The critical ratio was 6.42, a statistical significant difference in favor of the auditory group.

TABLE XI shows the results of the learning rate tests in June.

TABLE I shows the results of the learning tests made at the close of

the experiment in November.

TABLE I
NOVEMBER LEARNING TESTS

Group	No.	Mean	S.D.	Mean	S.D.	Mean	S.D.
Wash.	15	4.55	0.55	4.55	0.55	4.55	0.55
Cont.	15	4.55	0.55	4.55	0.55	4.55	0.55
Wash.	15	4.55	0.55	4.55	0.55	4.55	0.55
Cont.	15	4.55	0.55	4.55	0.55	4.55	0.55
Wash.	15	4.55	0.55	4.55	0.55	4.55	0.55
Cont.	15	4.55	0.55	4.55	0.55	4.55	0.55
Wash.	15	4.55	0.55	4.55	0.55	4.55	0.55
Cont.	15	4.55	0.55	4.55	0.55	4.55	0.55

The mean score of the selected group, which was given four trials, was 4.55 words in November compared to 3.55 words in the control group. The critical ratio was 0.55, a significant difference.

The mean score of the selected group, which was given only one trial, was 4.55 words in November compared to 3.55 words in the control group. The critical ratio was 0.55, a significant difference.

The mean score of the selected group, which was given only one trial, was 4.55 words in November compared to 3.55 words in the control group. The critical ratio was 0.55, a significant difference.

TABLE II shows the results of the learning tests made at the close of

TABLE XI
JUNE LEARNING RATE TESTS

Group	No.	Mean	S.D.	S.E. _m	Diff.	S.E. _{Diff}	C.R.
Comb.	75	6.98	1.62	.18	2.69	.30	8.96
Cont.	74	4.29	2.14	.24			
Vis.	75	6.34	1.93	.22	2.05	.32	6.40
Cont.	74	4.29	2.14	.24			
Aud.	70	6.87	1.52	.17	2.58	.29	8.89
Cont.	74	4.29	2.14	.24			

The mean score of the combined group in June was 6.98 words compared to 4.29 words for the control group. The critical ratio was 8.96, a statistical significant difference in favor of the combined group.

The mean score of the visual group in June was 6.34 words compared to 4.29 words for the control group. The critical ratio was 6.40, a statistical significant difference in favor of the visual group.

The mean score of the auditory group in June was 6.87 words compared to 4.29 words for the control group. The critical ratio was 8.89, a statistical significant difference in favor of the auditory group.

FIGURE I shows the growth in learning rate of the four groups.

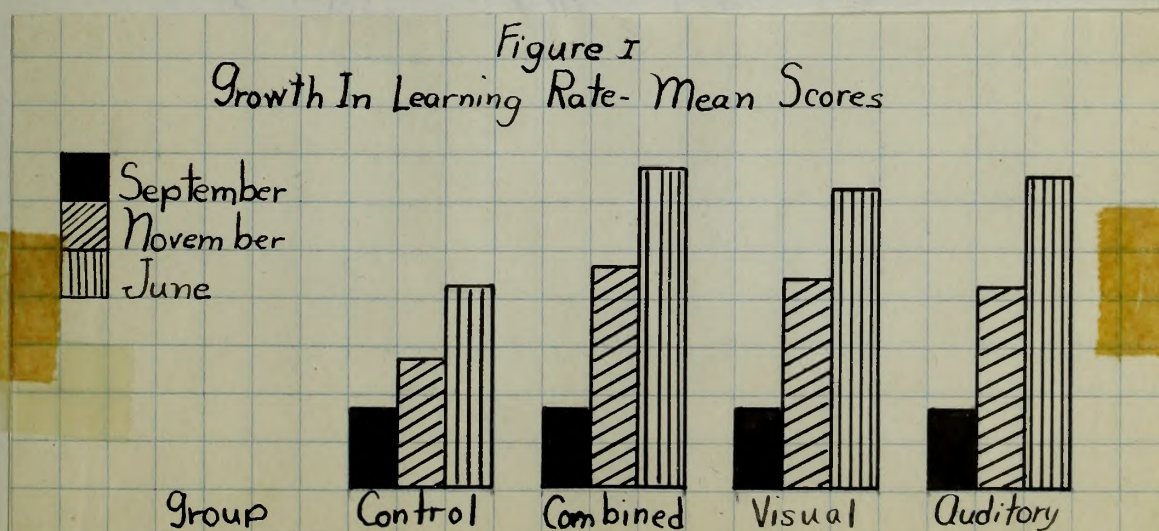


TABLE XI
WORD LEARNING RATE TESTS

Group	No.	Mean	S.D.	S.E.	U.L.	S.E. U.L.
Comp.	78	8.98	1.82	1.18	1.82	1.18
Comp.	76	4.32	1.18	1.18	1.82	1.18
Vid.	78	8.98	1.82	1.18	1.82	1.18
Comp.	76	4.32	1.18	1.18	1.82	1.18
And.	78	8.97	1.82	1.17	1.82	1.17
Comp.	76	4.30	1.17	1.17	1.82	1.17

The mean score of the combined group in this test was 8.18 words compared to 4.32 words for the control group. The critical ratio was 8.82, a statistically significant difference in favor of the combined group.

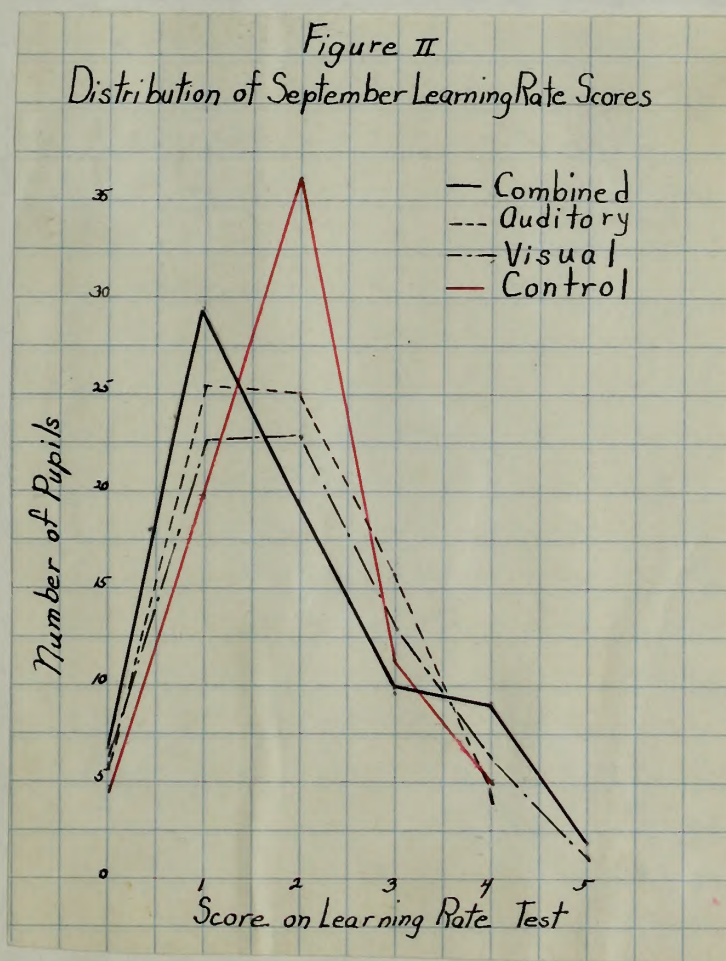
The mean score of the visual group in this test was 8.18 words compared to 4.32 words for the control group. The critical ratio was 8.82, a statistically significant difference in favor of the visual group.

The mean score of the auditory group in this test was 8.97 words compared to 4.32 words for the control group. The critical ratio was 8.82, a statistically significant difference in favor of the auditory group.

FIGURE 1 shows the growth in learning rate of the four groups.

While the mean scores of the four groups in September were identical, in each of the succeeding tests the three experimental groups were definitely superior to the control group. The mean score of the control group in June was about equal to that of the experimental groups in November.

FIGURE II shows the distribution of the learning rate scores for each group in the September test. The range of scores for the combined and visual groups was from 0 - 5 and for the auditory and control groups from 0 - 4. The greatest number of pupils in each group had scores of one or two words.



While the mean scores of the four groups in September were identical, in each of the succeeding weeks the three experimental groups were definitely superior to the control group. The mean scores of the control group in June was about equal to that of the experimental groups in November.

FIGURE 11 shows the distribution of the learning curve scores for each group in the September test. The range of scores for the combined and visual groups was from 0 - 5 and for the auditory and control groups from 0 - 4. The greatest number of pupils in each group had scores of one or two units.

FIGURE III shows the distribution of learning rate scores for each group in the November test. The range of scores for the three experimental groups was from 0 - 8, and for the control group from 0 - 6. No child in the control group had a perfect score on this test.

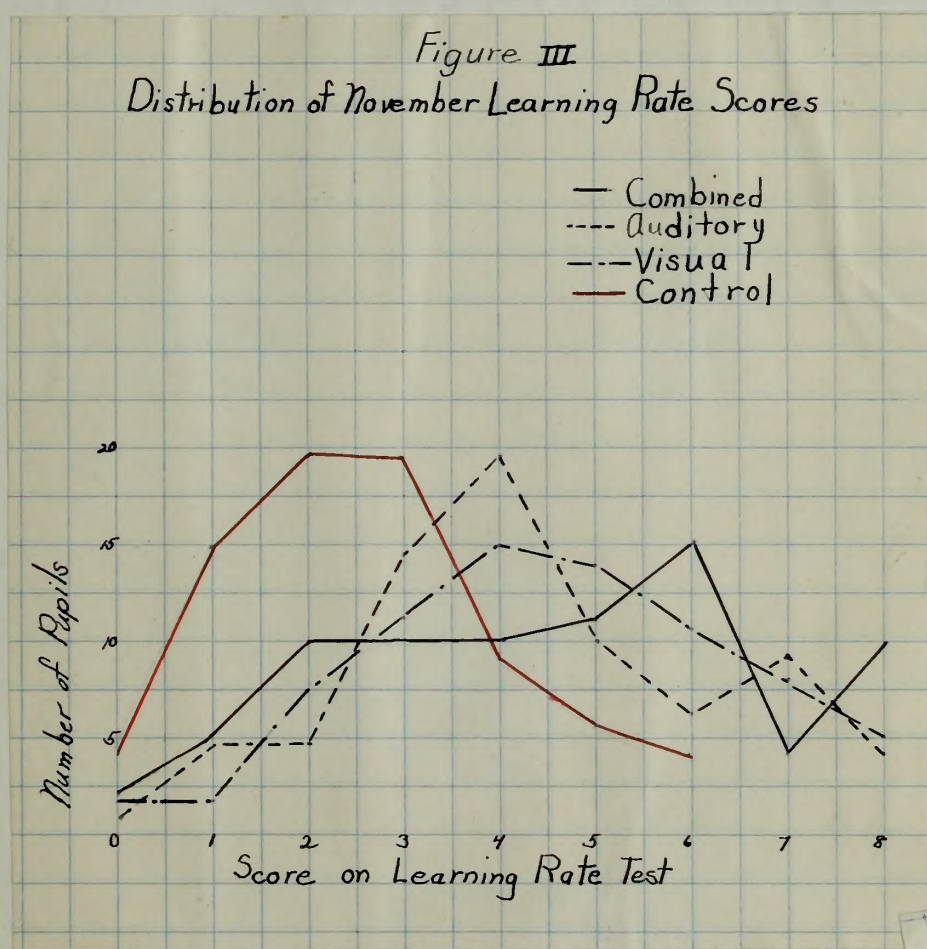


Figure 11 shows the effect of feeding rate on the growth of the three experimental groups in the November tests. The range of scores for the three experimental groups was from 0 - 8, and for the control group from 0 - 6. No child in the control group had a perfect score on this test.

FIGURE IV shows the distribution of learning rate scores for each group in the June test. The range for the combined and auditory groups was from 2 - 8, and for the visual and control groups from 0 - 8.

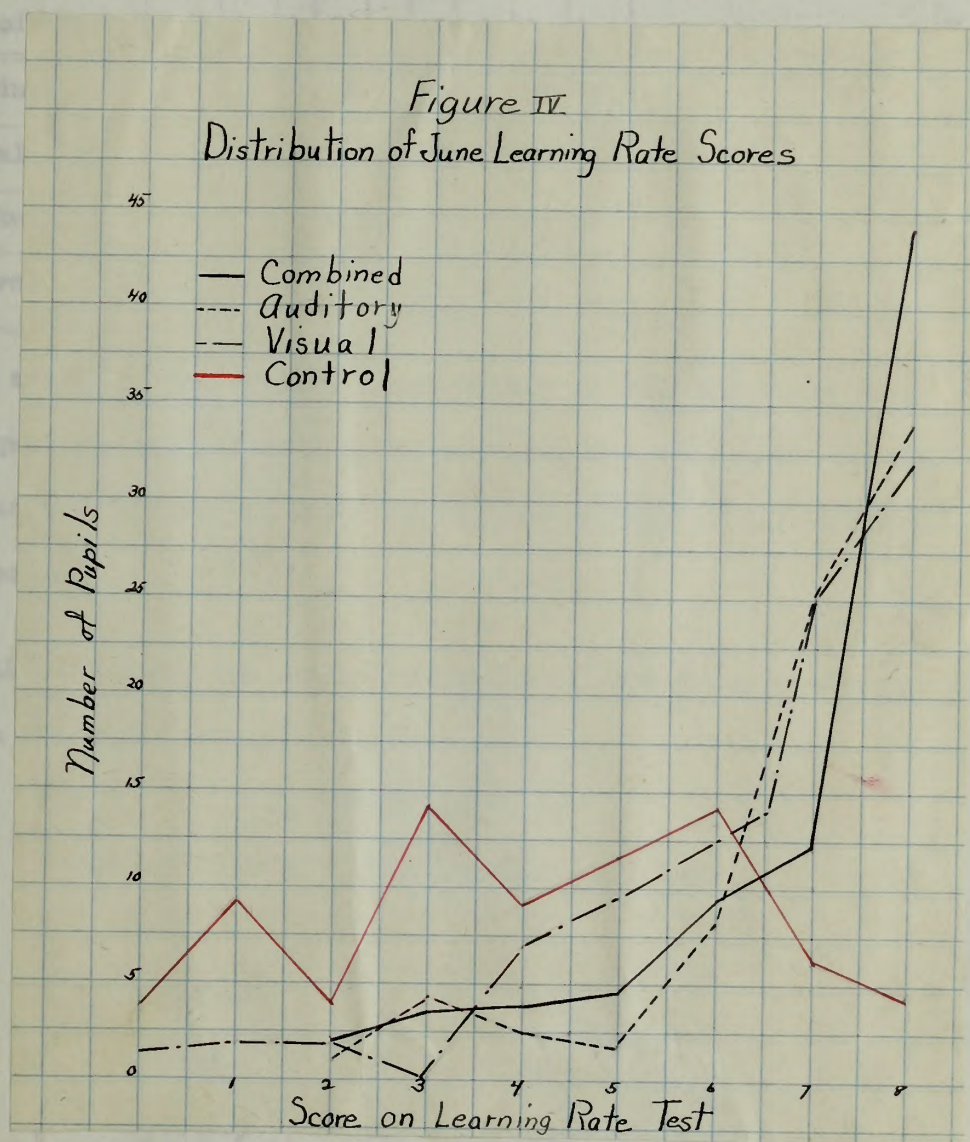


FIGURE IV shows the distribution of learning rate scores for each group

in the maze test. The range for the combined and auditory groups was from

2 - 8, and for the visual and control groups from 0 - 8.

TABLE XII shows the distribution of scores on the June learning rate test.

TABLE XII

DISTRIBUTION OF SCORES ON JUNE LEARNING RATE TEST

No. of Words	0	1	2	3	4	5	6	7	8	
Combined	0	0	3	3	3	4	7	10	44	
Visual	1	2	2	0	7	9	11	13	30	
Auditory	0	0	1	4	3	2	7	21	32	
Control	3	8	3	10	9	12	13	6	5	

The scores of the control group scattered over the whole range with almost equal numbers at the low and high scores. The three experimental groups had very few scores near the low end and the largest number had perfect scores.

TABLE XIII shows the number of pupils in each group making perfect scores on the June learning rate tests.

TABLE XIII

PERFECT SCORES ON JUNE LEARNING RATE TEST

Group	No.	%
Combined	44	58
Visual	30	40
Auditory	32	42
Control	5	6

TABLE XII shows the distribution of scores in the two learning tests.

Test.

TABLE XII

DISTRIBUTION OF SCORES IN THE LEARNING TESTS

No. of Words	0	1	2	3	4	5	6	7	8
Combined	0	0	1	2	3	4	5	6	7
Visual	1	2	3	4	5	6	7	8	9
Auditory	0	0	1	2	3	4	5	6	7
Control	0	0	1	2	3	4	5	6	7

The scores of the control group remained near the scale zero with almost equal numbers at the low and high levels. The three experimental groups had very low scores near the low end and the highest number in the highest scores.

TABLE XIII shows the number of pupils in each group taking practice

exercises on the two learning tests.

TABLE XIII

NUMBER SCORES IN THE LEARNING TESTS

Group	No.	%
Combined	44	25
Visual	40	22
Auditory	38	21
Control	2	1

FIGURE V shows the percent of perfect scores on the June learning rate test.

Figure V
Percent of Perfect Scores

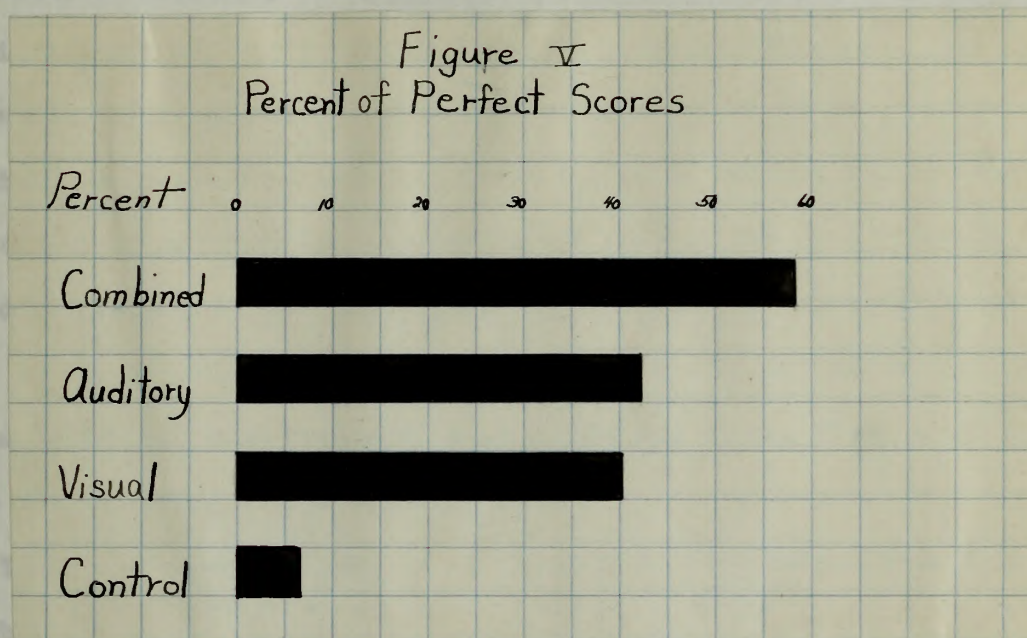


TABLE IV
RESULTS OF THE DETROIT WORD RECOGNITION TEST IN NOVEMBER

Group	No.	Mean	S.D.	S.E.	Diff.	S.E. Diff.	t-value
Combined	78	5.26	2.45	.27	2.38	.27	8.81
Control	75	2.58	1.07	.13			
Visual	78	4.24	2.31	.27	4.72	.27	17.48
Control	75	2.45	1.07	.13			
Auditory	78	4.24	2.32	.27	1.71	.27	6.33
Control	75	2.45	1.07	.13			

The mean score of the combined group was 5.26 words, the visual group 4.24 words and the auditory group 4.24, compared to 2.45 words for the control group. The critical ratios of 1.65, 2.58 and 3.00 all showed statistical significant differences in favor of the experimental groups.

1. Published by the World Book Co. 1937

2. Duncanson, H.B. "A Study in Word Recognition Skills in Grade One", unpublished M. A. Thesis, Eastern University 1955.

FIGURE 1 shows the percent of period of notice on the time-limited rate

and

Growth in Reading

The Detroit Word Recognition Test, Form A¹ was given at the close of the experiment in November, and Form B of the same test was given in June. An individual oral inventory reading test was given in February. This test consisted of two paragraphs and a list of twenty-five words. The paragraphs contained the words that were common to the three reading systems that had been taught in the schools included in the study. The list of words included several words that had not been taught, but had similar elements to words in the reading vocabulary and six words not in any of the reading systems which had been most difficult at the end of the sixth month in grade one according to the Donnelly² study.

TABLE XIV shows the results of the Detroit Word Recognition Test in November.

TABLE XIV
RESULTS OF THE DETROIT WORD RECOGNITION TEST IN NOVEMBER

Group	No.	Mean	S.D.	S.E. _m	Diff.	S.E. _{Diff}	C.R.
Combined	75	8.05	6.46	.74	5.52	.77	7.17
Control	75	2.53	2.07	.23			
Visual	75	7.24	5.91	.67	4.71	.71	6.63
Control	75	2.63	2.07	.23			
Auditory	75	4.24	3.69	.42	1.71	.47	3.66
Control	75	2.53	2.07	.23			

The mean score of the combined group was 8.05 words, the visual group 7.24 words and the auditory group 4.25, compared to 2.53 words for the control group. The critical ratios of 7.17, 6.63 and 3.66 all showed statistical significant differences in favor of the experimental groups.

1. Published by the World Book Co. 1937
2. Donnelly, H.E. "A Study in Word Recognition Skills in Grade One", Unpublished Ed. M. Thesis, Boston University 1932.

The Detroit Word Recognition Test, Form A was given at the close of the experiment in November, and Form B of the same test was given in June. In individual oral inventory reading test was given in February. This test consisted of two paragraphs and a list of twenty-five words. The paragraphs contained the words that were common to the three reading systems that had been taught in the schools included in the study. The list of words included several words that had not been taught, but had similar elements to words in the reading vocabulary and six words not in any of the reading systems which had been most difficult at the end of the sixth month in grade one according to the Donnelly study.

TABLE XIV shows the results of the Detroit Word Recognition Test in

November.

TABLE XIV
RESULTS OF THE DETROIT WORD RECOGNITION TEST IN NOVEMBER

Group	No.	Mean	S.D.	S.E.	Diff.	S.E. Diff.	C.E.
Combined	75	5.08	0.45	.14	5.22	.17	7.17
Control	75	4.52	0.37	.12			
Vocal	75	7.24	0.81	.27	4.71	.21	8.22
Control	75	5.68	0.67	.22			
Alphabetic	75	4.24	0.63	.21	1.71	.27	5.22
Control	75	2.52	0.37	.12			

The mean score of the combined group was 5.08 words. The vocal group 7.24 words and the alphabetic group 4.24, compared to 4.52 words for the control group. The critical ratios of 7.17, 5.22 and 3.66 all showed statistical significant differences in favor of the experimental groups.

1. Published by the World Book Co. 1937

2. Donnelly, E.E. "A Study in Word Recognition Skills in Grade One," unpublished M. A. thesis, Oregon University 1937.

TABLE XV shows the results of the individual oral inventory reading test in February.

TABLE XV

FEBRUARY READING TEST

Group	No.	Mean	S.D.	S.E. _m	Diff.	S.E. _{Diff.}	C.R.
Combined	74	93.40	31.30	3.63	34.00	5.08	6.69
Control	74	59.40	30.90	3.56			
Visual	75	85.00	36.60	4.22	25.60	5.52	4.63
Control	74	59.40	30.20	3.56			
Auditory	73	75.70	34.00	3.92	16.30	5.29	3.08
Control	74	59.40	30.90	3.56			

The mean scores on this test, which was an inventory of the actual words taught, were 93.40 words for the combined group, 85 words for the visual group and 75.70 words for the auditory group, compared to 59.40 words for the control group. The critical ratios being 6.69, 4.63 and 3.08 show statistical significant differences in favor of the three experimental groups.

TABLE XVI shows the results of the Detroit Word Recognition Test in June.

TABLE XVI

JUNE READING TEST SCORES

Group	No.	Mean	S.D.	S.E. _m	Diff.	S.E. _{Diff.}	C.R.
Combined	74	21.46	9.09	1.06	6.93	1.36	5.09
Control	73	14.53	7.52	.86			
Visual	75	19.12	8.73	1.01	4.59	1.32	3.47
Control	73	14.53	7.52	.86			
Auditory	70	19.99	9.33	1.11	5.46	1.40	3.90
Control	73	14.53	7.52	.86			

TABLE IV shows the results of the individual oral listening reading

test in February.

TABLE IV

INDIVIDUAL ORAL LISTENING READING

Group	No.	Mean	S.E.	S.D.	U.T.	S.E.	S.D.
Combined	74	22.40	1.20	1.21	22.40	1.20	1.21
Control	74	20.40	1.20	1.21	20.40	1.20	1.21
Visual	74	22.40	1.20	1.21	22.40	1.20	1.21
Control	74	20.40	1.20	1.21	20.40	1.20	1.21
Auditory	74	22.40	1.20	1.21	22.40	1.20	1.21
Control	74	20.40	1.20	1.21	20.40	1.20	1.21

The mean scores on this test were an indicator of the level of

reading, with 22.40 words for the combined group, 20.40 words for the

group and 20.40 words for the control group, compared to 20.40 words for

the control group. The highest scores were 22.40, with a 1.20 error

statistical significance difference in favor of the three experimental groups.

TABLE IV shows the results of the individual oral listening test in

TABLE IV

INDIVIDUAL ORAL LISTENING READING

Group	No.	Mean	S.E.	S.D.	U.T.	S.E.	S.D.
Combined	74	22.40	1.20	1.21	22.40	1.20	1.21
Control	74	20.40	1.20	1.21	20.40	1.20	1.21
Visual	74	22.40	1.20	1.21	22.40	1.20	1.21
Control	74	20.40	1.20	1.21	20.40	1.20	1.21
Auditory	74	22.40	1.20	1.21	22.40	1.20	1.21
Control	74	20.40	1.20	1.21	20.40	1.20	1.21

The mean scores on this test were 21.46 for the combined group, 19.12 words for the visual group and 19.99 words for the auditory group, compared to 14.53 words for the control group. The critical ratios of 5.09, 3.47 and 3.90 showed these differences to be statistically significant in favor of the experimental groups.

Growth In Visual Discrimination of Letters and Words.

Group tests of Visual Discrimination of letters and words were given in September and November. These tests combined visual memory with visual perception.

TABLE XVII shows the results of the visual tests for the combined and control groups.

TABLE XVII

VISUAL TESTS

Test	Group	No.	Mean	S.D.	S.E. _m	Diff. _m	S.E. _{Diff.}	C.R.
Sept.	Combined	75	16.40	3.96	.46	2.05	.57	3.59
Sept.	Control	75	14.35	3.00	.35			
Nov.	Combined	75	35.38	7.26	.83	5.16	1.26	4.09
Nov.	Control	75	30.22	8.34	.96			

The mean score of the combined group in September was 16.40, compared with 14.35 for the control group. The critical ratio being 3.59, this difference was statistically significant in favor of the combined group.

The mean score of the combined group in November was 35.38, compared with 30.22 for the control group. The critical ratio was 4.09, a statistical significant difference in favor of the combined group.

In the September test the combined group was superior to the control

The mean scores on this test were 21.25 for the combined group, 19.12 for the visual group and 19.38 for the auditory group. The difference was statistically significant in favor of the visual group, $t = 2.47$, $p < 0.05$. The original scores of 21.25 and 19.38 showed that there was a statistically significant difference in favor of the experimental groups.

Results in Visual Discrimination of Letters and Words

Group tests of visual discrimination of letters and words were given in September and November. These tests consisted of visual words with which the subjects were familiar.

TABLE VIII shows the results of the visual tests for the combined and control groups.

TABLE VIII

Visual Tests

Test	Group	No.	Mean	S.D.	T-Score	Original Score
Sept. Combined	Visual	15	19.33	2.47	19.33	19.33
Sept. Control	Visual	15	19.33	2.47	19.33	19.33
Nov. Combined	Visual	15	20.33	2.47	20.33	20.33
Nov. Control	Visual	15	20.33	2.47	20.33	20.33

The mean scores of the combined group in September and November were 19.33 and 20.33 respectively. The mean scores of the control group in September and November were 19.33 and 20.33 respectively. The difference was statistically significant in favor of the combined group, $t = 2.47$, $p < 0.05$. The original scores of 19.33 and 20.33 showed that there was a statistically significant difference in favor of the combined group. In the September test the combined group was superior to the control group.

group. In order to eliminate this advantage the difference of the two means was found and the standard error of this gain was computed. TABLE XVIII shows the results.

TABLE XVIII

Initial Diff. Mean score	S.E. Diff	Final Diff. Mean Score	S.E. Diff.	Gain	S.E. Gain	C.R.
2.05	.57	5.16	1.26	3.11	1.38	2.25

When the advantage the combined group had in September was eliminated, the difference was not statistically significant. The chances are 97 out of a hundred that it is a true difference in favor of the combined group.

TABLE XIX shows the results of the visual tests for the visual and control groups.

TABLE XIX

VISUAL TESTS

Test	Group	No.	Mean	S.D.	S.E. _m	Diff. _m	S.E.Diff	C.R.
Sept.	Visual	75	14.59	4.32	.49			
Sept.	Control	75	14.35	3.00	.34	.24	.59	
Nov.	Visual	75	34.35	7.41	.85			
Nov.	Control	75	30.22	8.34	.96	4.13	1.28	3.22

The mean score of the visual group in September was 14.59, compared with 14.35 for the control group.

The mean score of the visual group in November was 34.35, compared with 30.22 for the control group. The critical ratio was 3.22, a statistical significant difference in favor of the visual group.

group. In order to eliminate this advantage the difference of the two scores was found and the standard error of this ratio was computed. Table VIII shows the results.

TABLE VIII

Group	Initial Diff.	Final Diff.	Ratio	S.E. Ratio	Mean	S.E. Mean
Experimental	1.08	1.15	1.06	0.11	1.08	0.08
Control	1.08	1.15	1.06	0.11	1.08	0.08

When the advantage the combined group had in response was eliminated the difference was not statistically significant. The standard error of the difference was 0.11. This is a true difference in favor of the combined group.

TABLE IX shows the results of the visual tests for the visual and control groups.

TABLE IX

Test	Group	No.	Mean	S.E.	S.E. Mean	Ratio	S.E. Ratio
Exp. Visual	Visual	75	14.55	1.35	1.35	1.08	0.08
Exp. Control	Control	75	14.55	1.35	1.35	1.08	0.08
Exp. Visual	Visual	75	14.55	1.35	1.35	1.08	0.08
Exp. Control	Control	75	14.55	1.35	1.35	1.08	0.08

The mean score of the visual group in Experiment was 14.55, compared with 14.55 for the control group. The mean score of the visual group in Experiment was 14.55, compared with 14.55 for the control group. The standard error was 0.08, a statistically significant difference in favor of the visual group.

TABLE XX shows the results of the visual tests for the auditory and control groups.

TABLE XX

VISUAL TESTS

Test	Group	No.	Mean	S.D.	S.E. _m	Diff. _m	S.E. _{Diff}	C.R.
Sept. Auditory		75	15.31	3.00	.34	.96	.48	2.00
Sept. Control		75	14.35	3.00	.34			
Nov. Auditory		75	33.22	7.20	.93	3.00	1.26	2.38
Nov. Control		75	30.22	8.34	.96			

The mean score of the auditory group in September was 15.31 compared to 14.35 for the control group. In the November test the mean score for the auditory group was 33.22 compared to 30.22 for the control group. Neither of these groups had had any specific training in visual discrimination and the November tests showed their relative positions to be about the same as in the September test.

Growth in Visual Perception of Letters

The Lee Clark Reading Readiness¹ test was given in September and in November. In this test the child is required to match capital and lower case letters.

TABLE XXI shows the results of these tests for the combined and control groups.

1. Published

TABLE IX shows the results of the visual tests for the auditory and

control groups.

TABLE IX

VISUAL TESTS

Test	Group	No.	Mean	S.D.	S.E.	1937	S.D.	S.E.
Nov. Control	75	30.32	2.84	1.56		2.50	1.80	2.50
Nov. Auditory	75	34.32	1.32					
Sept. Control	75	14.32	2.32					
Sept. Auditory	75	18.32	2.32					

The mean score of the auditory group in September was 18.32 compared to 14.32 for the control group. In the November test the mean scores for the auditory group was 34.32 compared to 30.32 for the control group. Neither of these groups had had any specific training in visual discrimination and the November tests showed their relative positions to be about the same as in the September test.

Growth in Visual Perception of Letters

The last Clark Reading Examination test was given in September and in November. In this test the child is required to match capital and lower case letters. TABLE XII shows the results of these tests for the auditory and control groups.

Published

TABLE XXI

LEE-CLARK TESTS

Test	Group	No.	Mean	S.D.	S.E. _m	Diff. _m	S.E. _{Diff.}	C.R.
Sept.	Comb.	75	30.45	12.35	1.42	3.65	1.97	1.85
Sept.	Cont.	75	26.80	12.20	1.40			
Nov.	Comb.	75	42.40	7.90	.92	5.60	1.53	3.66
Nov.	Cont.	75	36.80	10.70	1.23			

The mean score of the combined group in September was 30.45 compared to 26.80 for the control group and in November 42.40, compared with 36.80. The difference in November was statistically significant in favor of the combined group.

In the September test the combined group was superior to the control group. In order to eliminate this advantage, the difference of the two means was found and the standard error of the gain was computed. TABLE XXII shows the results.

TABLE XXII

Initial Diff. Mean Score	S.E. Diff.	Final Diff. Mean Score	S.E. Diff.	Gain	S.E. Gain	C.R.
3.65	1.97	5.60	1.53	1.95	2.49	.78

The critical ratio of .78 showed the chances to be 56 out of a hundred of this being a true difference in favor of the combined group.

FIGURE VI shows the distribution of scores on the Lee-Clark Test in September for the combined and control groups.

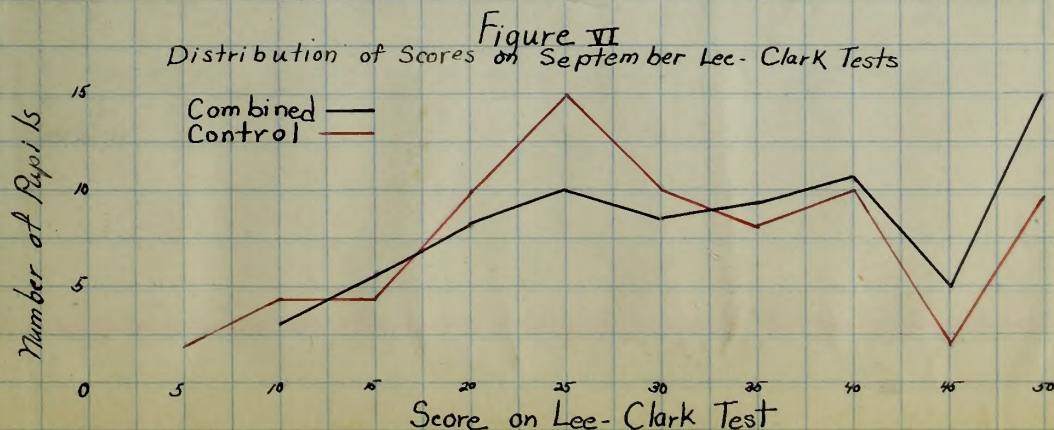


TABLE XII
THE CLARK TEST

Test Group	No.	Mean	S.D.	S.E.	Diff.	S.E. Diff.
Sept. Comb.	73	20.45	13.33	1.52	3.83	1.97
Sept. Comb.	74	22.80	12.10	1.40		
Nov. Comb.	75	22.43	7.00	.92		
Nov. Comb.	76	22.80	10.70	1.32	4.80	1.95
						0.85

The mean score of the combined group in September was 20.45 compared to 22.80 for the control group and in November 22.43 compared with 22.80. The difference in November was statistically significant in favor of the combined group.

In the September test the combined group was superior to the control group. In order to eliminate this advantage, the difference of the two means was found and the standard error of this difference computed. Table XII shows the results.

TABLE XIII

Initial Diff.	Mean Score	S.E.	Diff.	S.E. Diff.	S.E.
3.83	20.45	1.52	1.52	1.97	0.85
					0.78

The critical ratio of 75 showed the difference to be 38 out of a hundred of this being a true difference in favor of the combined group.

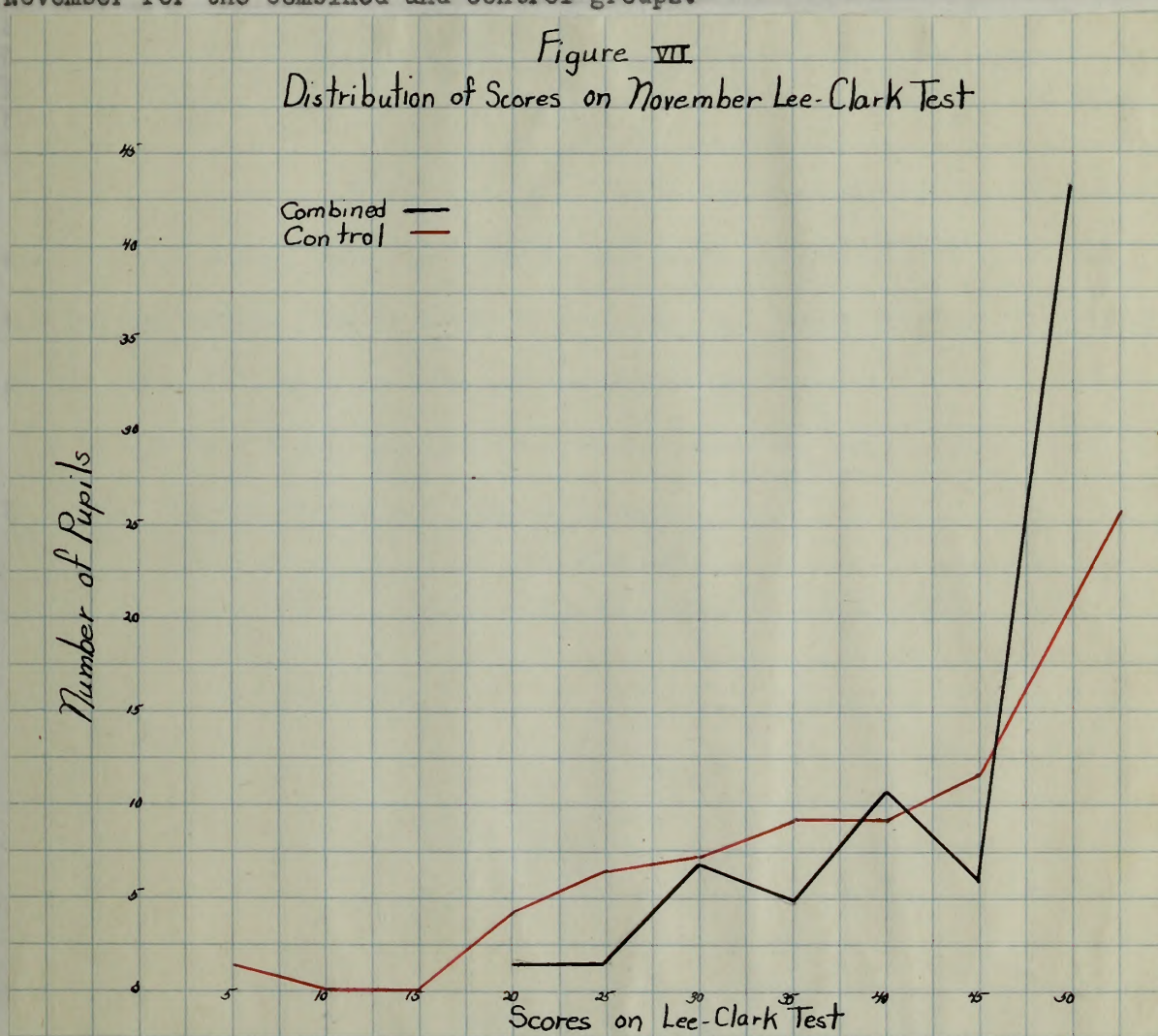
FIGURE VI shows the distribution of scores on the two-group test in

September for the original and control groups.

The range for the combined group is from 10 to 50 and for the control group from 5 to 50.

FIGURE VII shows the distribution of scores on the Lee-Clark test in November for the combined and control groups.

Figure VII
Distribution of Scores on November Lee-Clark Test



The range for the control group was from 5 to 50 and for the combined group from 20 to 50. The combined group made its largest gain in the highest scores.

The range for the combined group is from 10 to 50 and for the control

group from 5 to 50.

Figure VII shows the distribution of scores on the low-Clarity test in

November for the combined and control groups.

The range for the control group was from 0 to 50 and for the combined

group from 20 to 50. The combined group made the largest gain in the

highest scores.

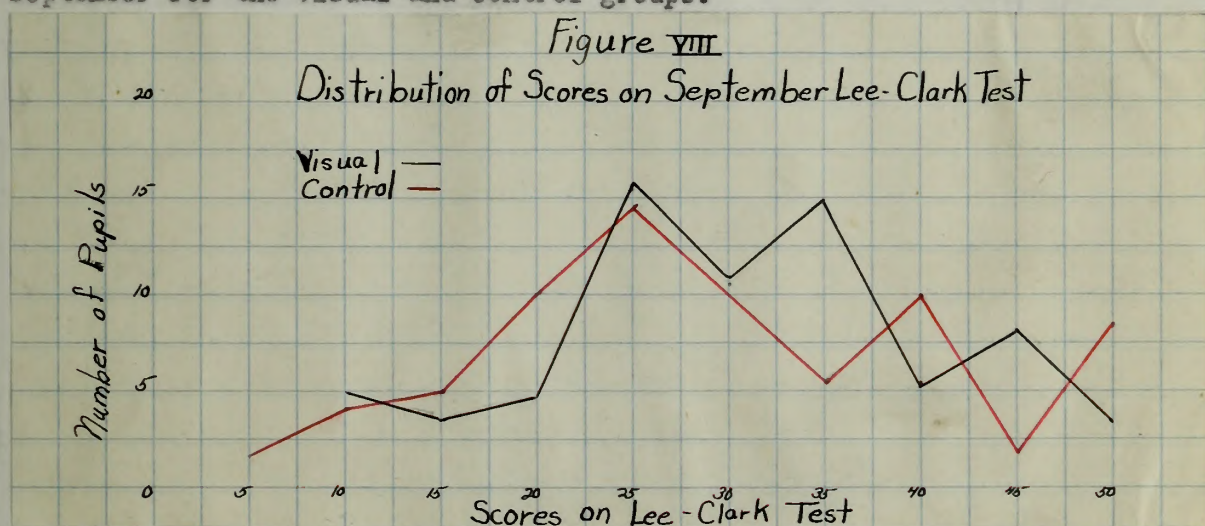
TABLE XXIII shows the results of the Lee-Clark tests for the visual and control groups.

TABLE XXIII

Test	Group	No.	Mean	S.D.	S.E. _m	Diff. _m	S.E. _{Diff.}	C.R.
Sept.	Visual	75	26.80	11.15	1.28	0		
Sept.	Control	75	26.80	12.20	1.40			
Nov.	Visual	75	44.10	6.15	.70	7.30	1.41	5.17
Nov.	Control	75	36.80	10.70	1.23			

The mean scores of both groups in September were identical. The mean score of the visual group in November was 44.10, compared with 36.80 for the control group. The critical ratio being 5.17 shows this is a statistical significant difference in favor of the visual group.

FIGURE VIII shows the distribution of scores on the Lee-Clark test in September for the visual and control groups.



The range for the visual group is from 10 to 50, and for the control group from 5 to 50.

TABLE XIII shows the results of the two-class tests for the visual and control groups.

TABLE XIII

Test	Group	No. Mean	S.E.	S.E.	S.E.
Nov. Control	75	55.50	10.00	1.43	
Nov. Visual	75	64.10	8.18	1.70	
Sept. Control	75	55.50	10.00	1.43	
Sept. Visual	75	55.50	10.00	1.43	
				0	
				7.30	1.41
					2.17

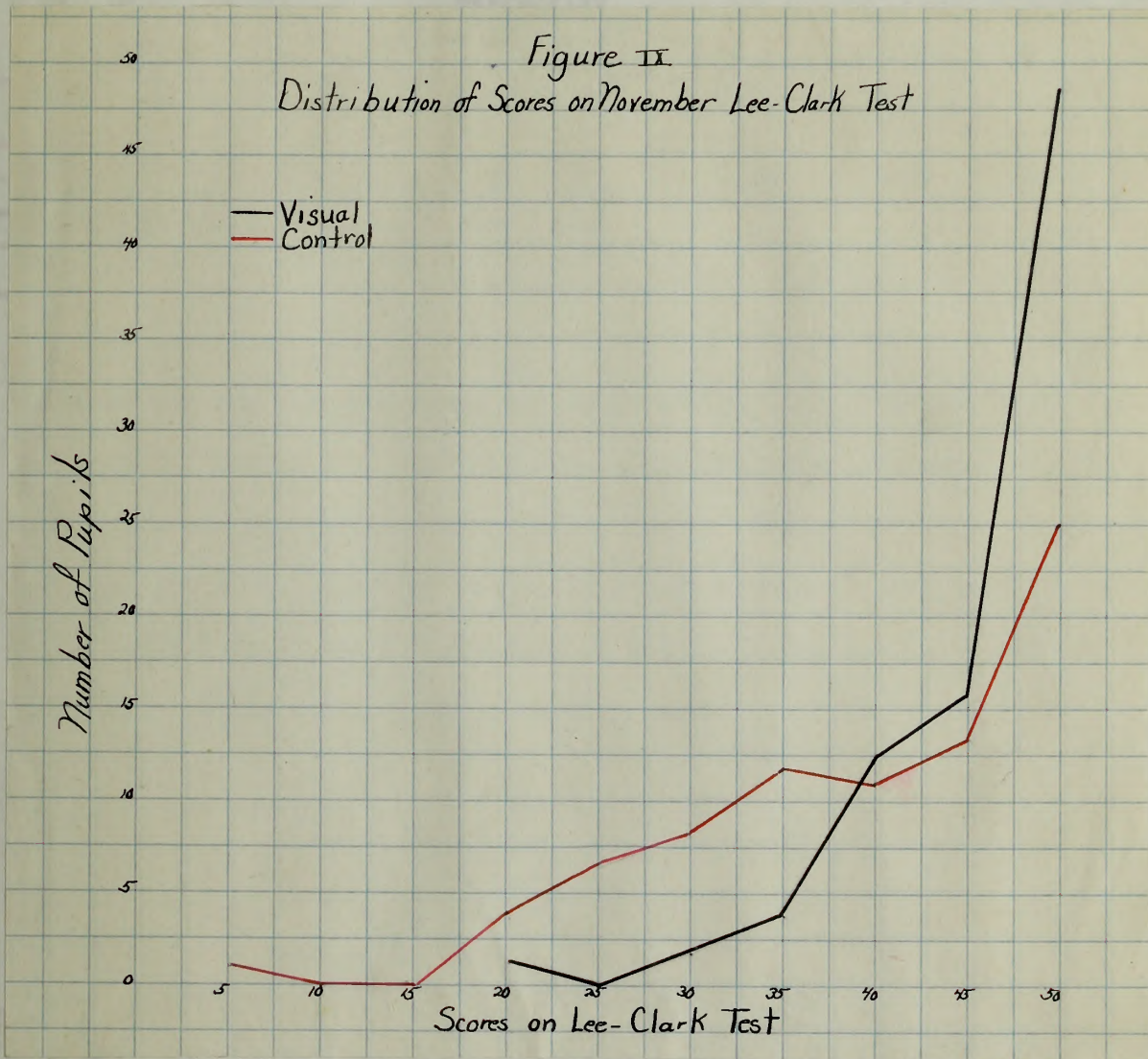
The mean scores of both groups in September were identical. The mean score of the visual group in November was 64.10, compared with 55.50 for the control group. The critical ratio being 2.17 shows this is a significant difference in favor of the visual group.

FIGURE VIII shows the distribution of scores on the two-class test in September for the visual and control groups.

The range for the visual group is from 10 to 90, and for the control

group from 0 to 90.

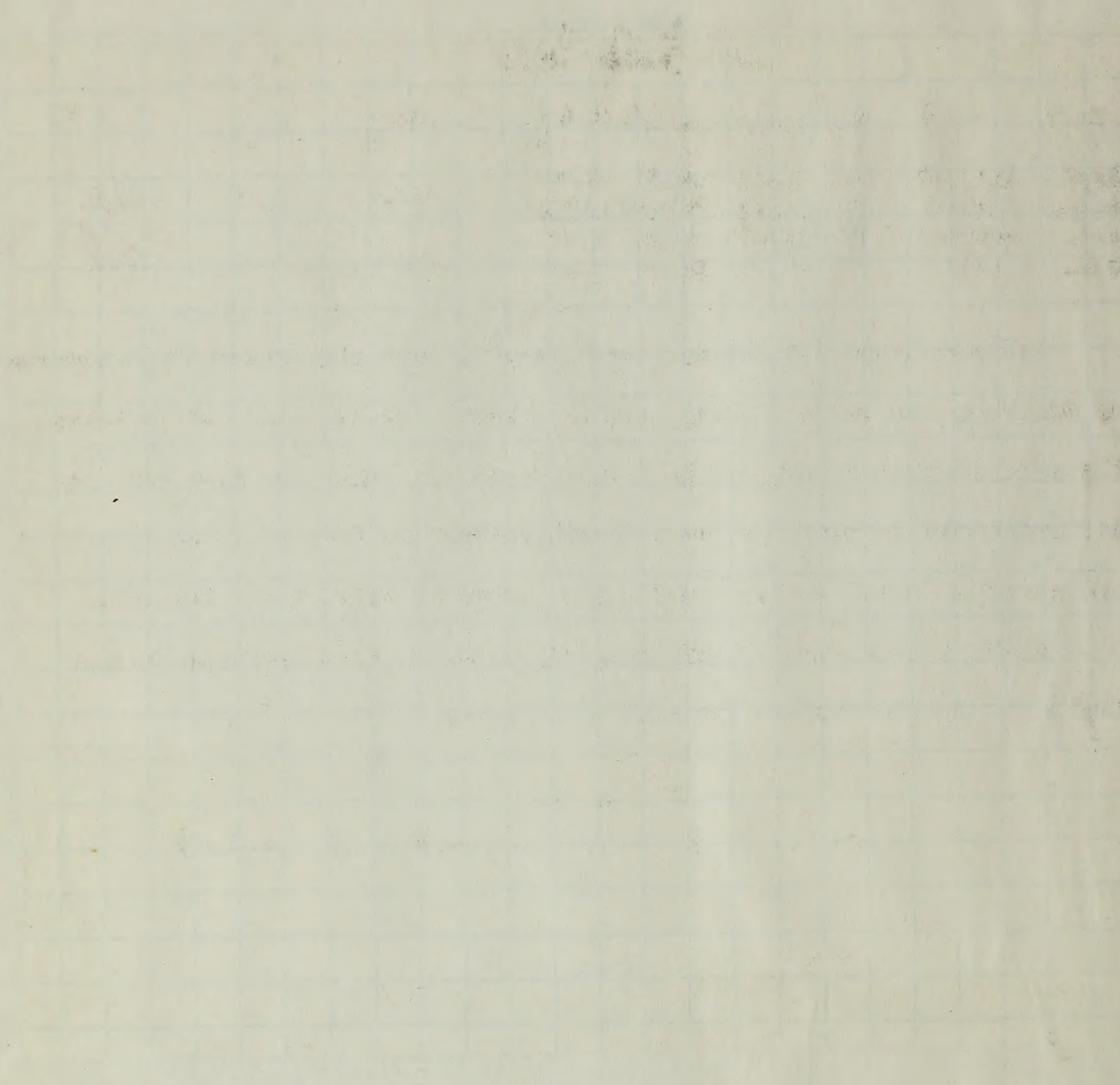
FIGURE IX shows the distribution of the Lee-Clark scores in November for the visual and control groups.



The range for the visual group was from 20 to 50, and for the control group from 5 to 50. The visual group had many more high scores than the control group.

Figure 11 shows the distribution of the two-class groups in January

and the visual and control groups.



The range for the visual group was from 10 to 30, and for the control

group from 5 to 60. The visual group has many more high scores than the

control group.

TABLE XXIV shows the results of the Lee-Clark tests for the auditory and control groups.

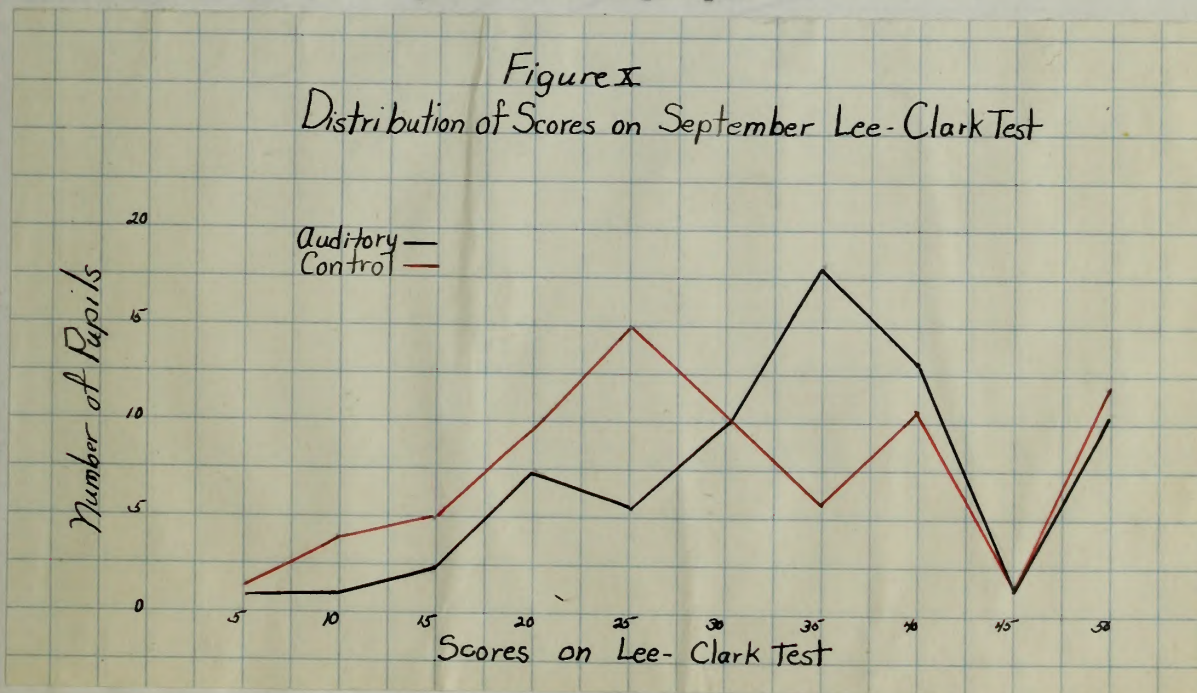
TABLE XXIV
LEE - CLARK TESTS

Test	Group	No.	Mean	S.D.	S.E. _m	Diff. _m	S.E. Diff.	C.R.
Sept.	Auditory	75	31.15	10.85	1.25	4.35	1.88	2.31
Sept.	Control	75	26.80	12.20	1.40			
Nov.	Auditory	75	40.45	9.45	1.09	3.65	1.64	2.22
Nov.	Control	75	36.80	10.71	1.23			

The mean score for the auditory group in September was 31.15, compared to 26.80 for the control group, and in November 40.45, compared to 36.80. The critical ratios 2.31 and 2.22 were about the same. In each case the difference was in favor of the auditory group. Neither of these groups had had specific visual training and their scores remained about the same.

FIGURE X shows the distribution of scores on the Lee-Clark test in September for the auditory and control groups.

Figure X
Distribution of Scores on September Lee-Clark Test



The range for both groups is from 5 to 50.

TABLE I shows the results of the two-blind tests for the auditory

and control groups.

TABLE I
Two - Group Tests

Test	Group	No. Tests	Correct	Wrong	Diff.	S.E.	S.E.
Exp. I	Control	75	21.75	19.25	2.50	1.50	1.50
Exp. I	Auditory	75	22.50	17.50	5.00	1.50	1.50
Nov. I	Control	75	22.50	17.50	5.00	1.50	1.50
Nov. I	Auditory	75	22.50	17.50	5.00	1.50	1.50

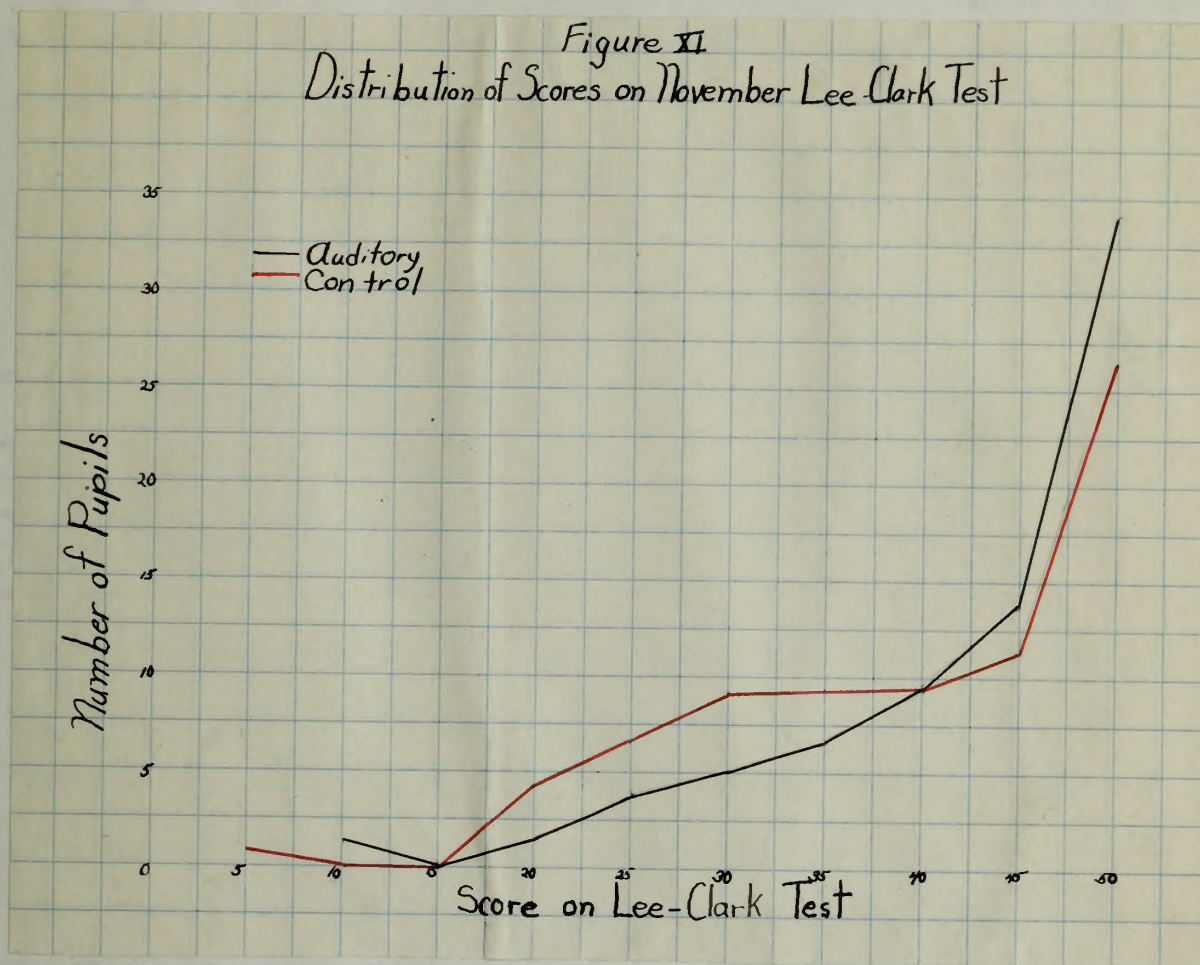
The mean score for the auditory group in September was 21.75, compared to 22.50 for the control group, and in November 22.50, compared to 22.50. The critical ratios 2.51 and 2.52 were above the mean. In each case the difference was in favor of the auditory group. Behavior of these groups had had specific visual training and their scores remained about the same. FIGURE 1 shows the distribution of scores on the two-blind test in

September for the auditory and control groups.

The range for both groups is from 5 to 30.

FIGURE XI shows the distribution of scores on the Lee-Clark test in November for the auditory and control groups.

Figure XI
Distribution of Scores on November Lee-Clark Test



The range for the control group is from 5 to 50, and for the auditory group from 10 to 50.

FIGURE XI shows the distribution of scores on the Post-Test test is

However for the control group.

The range for the control group is from 5 to 50, and for the study

group from 10 to 50.

The range for the control group is from 5 to 50, and for the study

group from 10 to 50.

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group from 10 to 50.

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group from 10 to 50.

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group from 10 to 50.

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The range for the control group is from 5 to 50, and for the study

group from 10 to 50.

The range for the control group is from 5 to 50, and for the study

group from 10 to 50.

The range for the control group is from 5 to 50, and for the study

group from 10 to 50.

Growth In Auditory Discrimination of Words.

A group test consisting of eighty items to test auditory discrimination was given in September, and a similar test of one hundred and twenty-four items was given in November.

TABLE XXV shows the results of the auditory tests for the combined and control groups.

TABLE XXV
AUDITORY TESTS

Test	Group	No.	Mean	S.D.	S.E. _m	Diff. _m	S.E. _{Diff.}	C.R.
Sept.	Combined	75	36.10	18.20	2.12	8.40	2.60	3.23
Sept.	Control	75	27.70	13.20	1.52			
Nov.	Combined	75	76.30	27.00	3.11	8.50	3.73	2.70
Nov.	Control	75	67.80	17.90	2.06			

The mean score of the combined group in September was 36.10 compared with 27.70 for the control group. The critical ratio being 3.23, this difference was statistically significant in favor of the combined group.

The mean score of the combined group in November was 76.30, compared with 67.80 for the control group. The critical ratio was 2.70. The chances are 99 out of a hundred that this is a true difference in favor of the combined group.

The November test had forty-four more items than the September test which accounts for the larger scores on this test. The relative positions of the two groups remained about the same.

TABLE XXVI shows the results of the auditory tests for the visual and control groups.

A group test consisting of eight tones in each auditory discrimination was given in September, and a similar test of one hundred and twenty-four tones was given in November.

TABLE XIV shows the results of the auditory tests for the combined and control groups.

TABLE XIV
AUDITORY TESTS

Test	Group	No. Correct	% Correct	Mean Score	Standard Error
Sept.	Combined	75	88.10	17.30	1.11
Sept.	Control	75	87.70	17.30	1.11
Nov.	Combined	75	88.80	17.30	1.11
Nov.	Control	75	87.80	17.30	1.11

The mean score of the combined group in September was 88.10 compared with 87.70 for the control group. The relative ratio being 1.01, this difference was statistically significant in favor of the combined group. The mean score of the combined group in November was 88.80 compared with 87.80 for the control group. The relative ratio was 1.01. The scores are 95 out of a hundred that is a large difference in favor of the combined group.

The November test and forty-four more tones than the September test with accounts for the higher scores in this test. The relative difference of the two groups remained about the same.

TABLE XVI shows the results of the auditory tests for the visual and control groups.

TABLE XXVI
AUDITORY TESTS

Test	Group	No.	Mean	S.D.	S.E. _m	Diff. _m	S.E. _{Diff.}	C.R.
Sept.	Visual	75	34.00	13.00	1.50	6.30	2.22	2.85
Sept.	Control	75	27.70	13.20	1.52			
Nov.	Visual	75	72.40	22.90	2.64	4.60	3.34	1.37
Nov.	Control	75	67.80	17.90	2.06			

The mean score for the visual group in September was 34, compared to 27.70 for the control group. In November the mean score of the visual group was 72.40, compared to 67.80 for the control group. Neither of these groups had had any special auditory training and their positions remained about the same.

TABLE XXVII shows the results of the Auditory Tests for the auditory and control groups.

TABLE XXVII
AUDITORY TESTS

Test	Group	No.	Mean	S.D.	S.E. _m	Diff. _m	S.E. _{Diff.}	C.R.
Sept.	Auditory	75	26.85	12.65	1.46	.85	2.10	.40
Sept.	Control	75	27.70	13.20	1.52			
Nov.	Auditory	75	64.10	28.70	3.31	3.70	3.89	.95
Nov.	Control	75	67.80	17.90	2.06			

The mean score for the auditory group in September was 26.85, compared to 27.70 for the control group. The mean score for the auditory group in November was 64.10 compared with 67.80 for the control group. The advantage in both tests was in favor of the control group.

The position of each of the four groups remained about the same in November as it was in the beginning. Six weeks may be a short time to measure an increase in this skill.

TABLE XVII
AUDITORY TESTS

Test Group	No.	Mean	S.D.	S.E.	Diff.	S.E. Diff.	C.E.
Nov. Control	75	57.50	17.00	2.05	4.80	2.84	1.57
Nov. Auditory	75	55.10	22.00	2.54			
Sept. Control	75	57.70	13.30	1.52	6.80	2.32	2.55
Sept. Auditory	75	54.00	15.00	1.80			

The mean score for the visual group in September was 54, compared to 57.70 for the control group. In November the mean score of the visual group was 55.10, compared to 57.50 for the control group. Neither of these groups had had any special auditory training and their positions remained about the same.

TABLE XVII shows the results of the auditory tests for the auditory and control groups.

TABLE XVIII
AUDITORY TESTS

Test Group	No.	Mean	S.D.	S.E.	Diff.	S.E. Diff.	C.E.
Nov. Control	75	57.50	17.00	2.05	2.70	2.82	.78
Nov. Auditory	75	55.10	22.00	2.54			
Sept. Control	75	57.70	13.30	1.52	5.50	2.10	.40
Sept. Auditory	75	55.95	15.55	1.45			

The mean score for the auditory group in September was 55.95, compared to 57.70 for the control group. The mean score for the auditory group in November was 55.10 compared to 57.50 for the control group. The advantage in both tests was in favor of the control group.

The position of each of the four groups remained about the same in November as it was in the beginning. Six weeks may be a short time to measure an increase in this skill.

FIGURE XII shows the distribution of auditory test scores for each group in September. This figure shows the range of scores for the combined group to be from 0 - 74, for the visual group to be from 0 - 69, for the auditory group to be from 0 - 59, and for the control group from 0 - 54.

Figure XII
Distribution of Scores on September Auditory Test

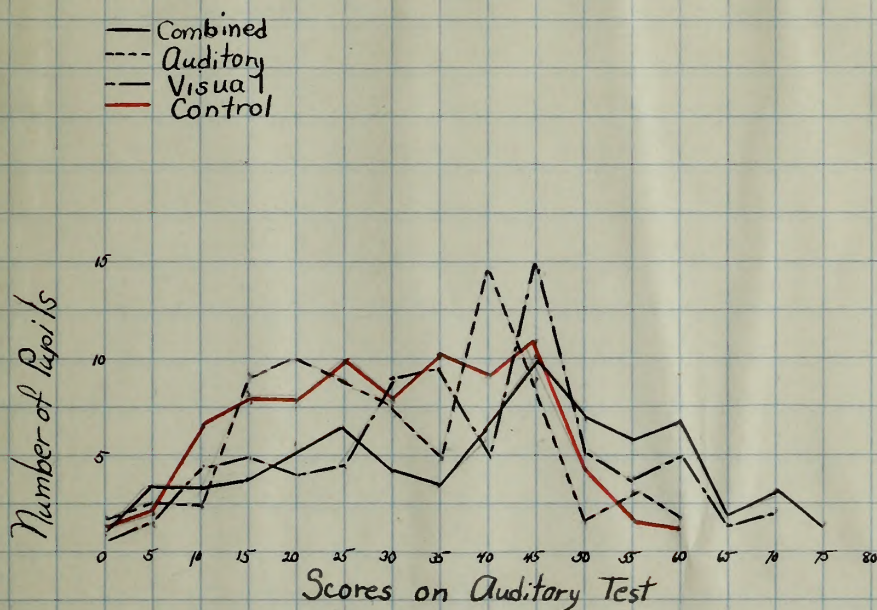


FIGURE III shows the distribution of auditory test scores for each group in September. This figure shows the range of scores for the combined group to be from 0 - 127 for the visual group to be from 0 - 89 for the auditory group to be from 0 - 88, and for the control group from 0 - 84.

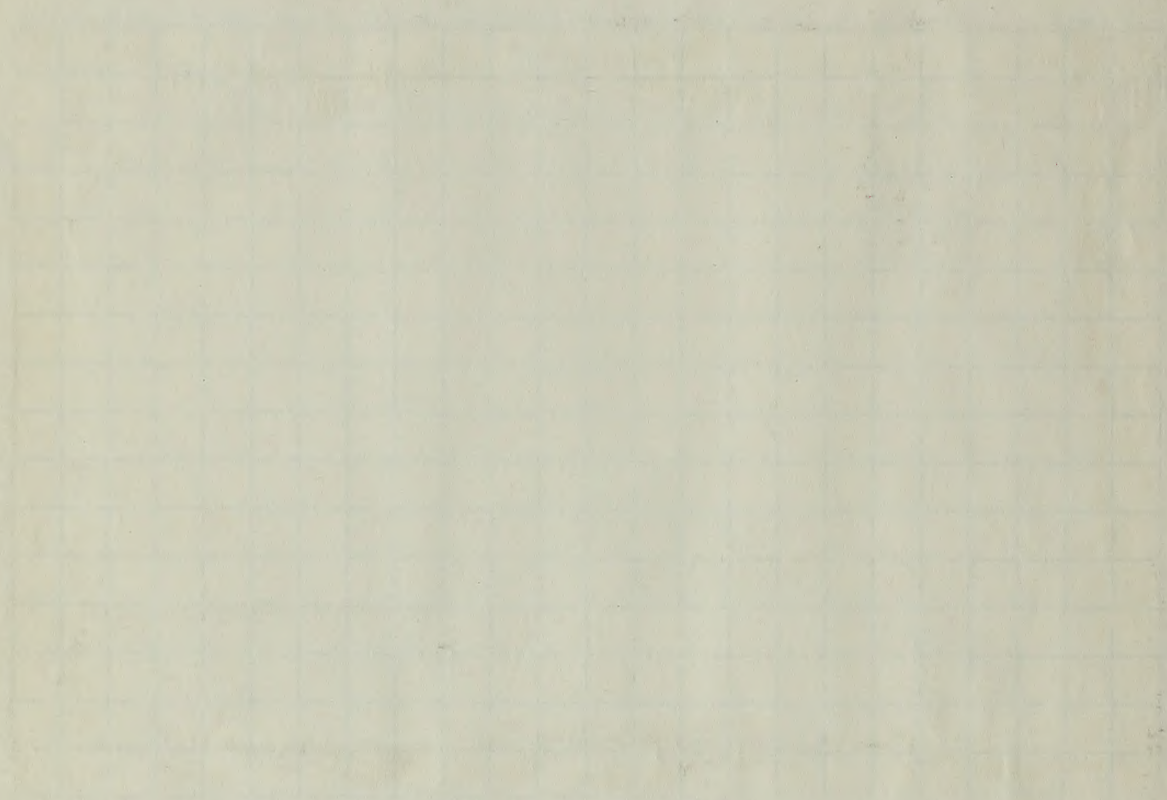
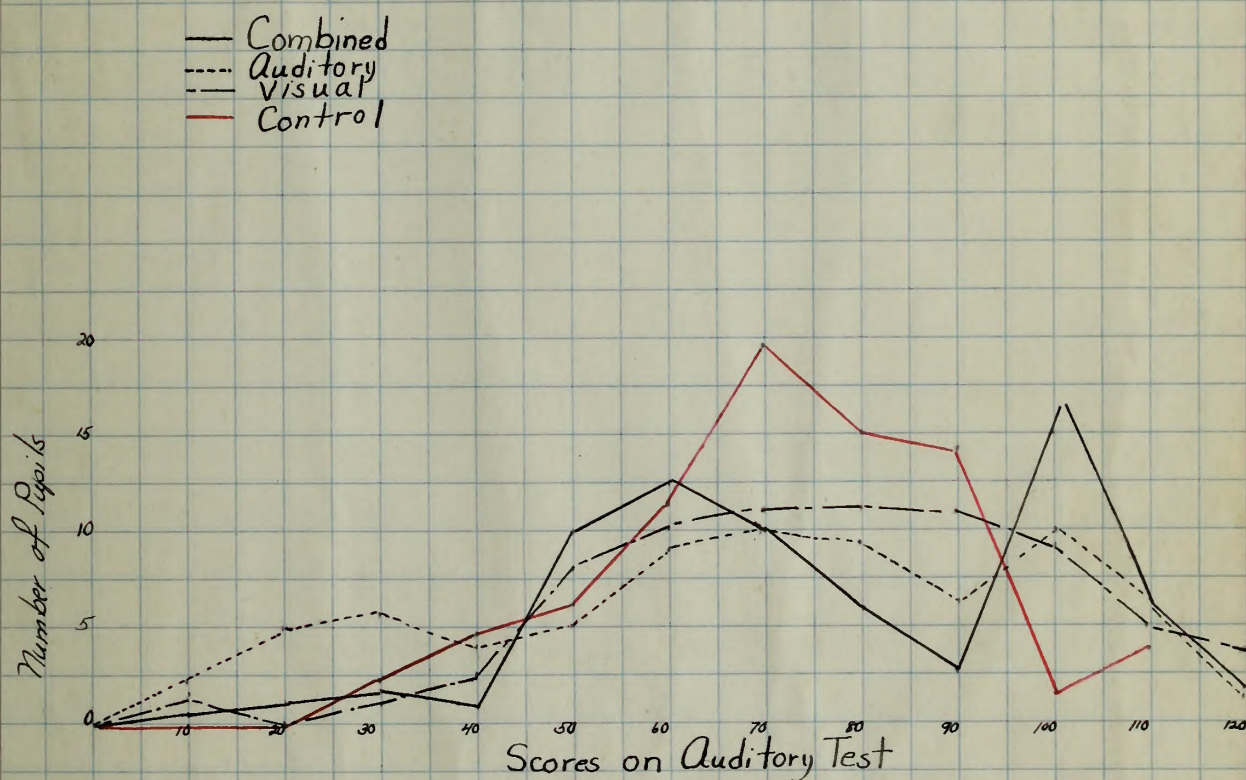


FIGURE XIII shows the distribution of the auditory test scores in November. This figure shows the range of scores for the combined group to be from 0 - 129, for the visual and auditory groups to be 0 - 119, and for the control group to be from 20 - 109.

Figure XIII
Distribution of Scores on November Auditory Test



FIGURES WILL SHOW THE DISTRIBUTION OF THE HIGHEST TEST SCORES IN
November. This figure shows the range of scores for the combined group to
be from 0 - 125, for the visual and auditory groups to be 0 - 115, and for
the control group to be from 50 - 100.

Sex Differences in Learning Rate

The groups were divided according to sex. Table XXVIII shows the mental and chronological ages for the four groups.

TABLE XXVIII
MENTAL AND CHRONOLOGICAL AGES FOR GROUPS (4) STUDIED

Group	Sex	No	Mean M.A.	S.D.	Mean C.A.	S.D.
Combined	Boys	41	69.62	7.80	71.08	5.70
Combined	Girls	34	73.40	7.95	73.18	4.56
Visual	Boys	33	70.92	6.12	75.73	6.59
Visual	Girls	42	71.24	6.69	71.98	1.72
Auditory	Boys	38	71.45	6.12	71.02	5.70
Auditory	Girls	37	71.00	7.98	71.29	5.67
Control	Boys	39	72.71	8.61	71.63	6.30
Control	Girls	36	69.77	9.39	71.74	4.59

The mean mental ages for the boys of the combined and visual groups were lower than the mean chronological ages. The mean mental ages for the boys of the auditory and control groups were higher than the mean chronological ages. With the exception of the control group, the mean mental ages for the girls were about the same as the mean chronological ages. The mean mental age for the girls of the control group was lower than the mean chronological age.

TABLE XXIX shows the results of the learning rate tests in September, November and June for the combined group.

The groups were divided according to sex. Table I shows the mean and chronological ages for the four groups.

TABLE I
MENTAL AND CHRONOLOGICAL AGES FOR GROUPS (4) STUDIED

Group	Sex	No.	Mean M.A.	S.D.	Mean C.A.	S.D.
Combined	Boys	41	69.87	7.63	71.08	6.70
Combined	Girls	56	73.43	7.92	72.18	4.54
Visual	Boys	25	70.83	6.13	72.73	6.55
Visual	Girls	42	71.84	6.59	71.86	4.73
Auditory	Boys	38	71.43	6.12	71.02	6.70
Auditory	Girls	37	71.00	7.08	71.22	4.87
Control	Boys	32	74.71	6.01	71.68	6.50
Control	Girls	33	72.77	6.52	72.74	4.29

The mean mental ages for the boys of the combined and visual groups were lower than the mean chronological ages. The mean mental ages for the boys of the auditory and control groups were higher than the mean chronological ages. With the exception of the control group, the mean mental ages for the girls were about the same as the mean chronological ages. The mean mental ages for the girls of the control group was lower than the mean chronological age.

Table II shows the results of the learning rate tests in September, November and June for the combined group.

TABLE XXIX
LEARNING RATE TESTS OF COMBINED GROUP

Test	Sex	No.	Mean	S.D.	S.E. _m	Diff	S.E. Diff.	Critical Ratio
Sept.	Boys	41	1.81	1.29	.20	.25	.27	.92
Sept.	Girls	34	2.06	1.13	.19			
Nov.	Boys	41	4.34	2.15	.38	.42	.50	.84
Nov.	Girls	34	4.76	1.98	.34			
June	Boys	41	6.74	1.79	.28	.34	.39	.87
June	Girls	34	7.08	1.63	.27			

The mean score for the girls of the combined group on the Learning Rate test in September was 2.06, compared to 1.81 for the boys. This difference was not statistically significant. The two groups kept about the same relative positions in November and June.

TABLE XXX shows the results of the learning rate tests in September, November and June for the visual group.

TABLE XXX
LEARNING RATE TESTS OF VISUAL GROUP

Test	Sex	No.	Mean	S.D.	S.E. _m	Diff	S.E. Diff.	Critical Ratio
Sept.	Boys	33	1.79	1.06	.18	.23	.27	.85
Sept.	Girls	42	2.02	1.35	.20			
Nov.	Boys	33	4.37	1.84	.32	.36	.33	1.08
Nov.	Girls	42	4.73	2.02	.31			
June	Boys	33	5.94	2.00	.34	.77	.42	1.83
June	Girls	42	6.71	1.62	.25			

The mean scores in each of these three tests showed the girls superior to the boys. While none of the differences were statistically significant, the difference was somewhat greater in each succeeding test.

TABLE III
LEARNING RATE TESTS OF FEMALE GROUP

Test	Sex	No. Solved	S.E.	S.E. _m	WLT	S.E. WLT	Critical Value
Sept. Boys	Boys	41	1.50	1.10	30	1.10	22
Sept. Girls	Girls	36	2.00	1.10	30	1.10	22
Nov. Boys	Boys	41	1.50	1.10	30	1.10	22
Nov. Girls	Girls	36	2.00	1.10	30	1.10	22
June Boys	Boys	41	1.50	1.10	30	1.10	22
June Girls	Girls	36	2.00	1.10	30	1.10	22

The mean scores for the girls of the combined group on the learning rate test in September was 2.00, compared to 1.50 for the boys. This difference was not statistically significant. The two groups kept about the same relative positions in November and June.

TABLE III shows the results of the learning rate tests in September.

November and June for the female group.

TABLE III
LEARNING RATE TESTS OF FEMALE GROUP

Test	Sex	No. Solved	S.E.	S.E. _m	WLT	S.E. WLT	Critical Value
Sept. Boys	Boys	41	1.50	1.10	30	1.10	22
Sept. Girls	Girls	36	2.00	1.10	30	1.10	22
Nov. Boys	Boys	41	1.50	1.10	30	1.10	22
Nov. Girls	Girls	36	2.00	1.10	30	1.10	22
June Boys	Boys	41	1.50	1.10	30	1.10	22
June Girls	Girls	36	2.00	1.10	30	1.10	22

The mean scores in each of these three tests showed the girls superior to the boys. While none of the differences were statistically significant, the difference was somewhat greater in each succeeding test.

TABLE XXXI shows the results of the learning rate tests in September, November and June for the auditory group.

TABLE XXXI
LEARNING RATE TESTS OF AUDITORY GROUP

Test	Sex	No.	Mean	S.D.	S.E. _m	Diff.	S.E. Diff.	Critical Ratio
Sept.	Boys	38	1.95	.96	.15	.05	.22	.22
Sept.	Girls	37	1.90	1.00	.16			
Nov.	Boys	38	4.24	1.85	.30	.14	.43	.32
Nov.	Girls	37	4.38	1.92	.31			
June	Boys	38	7.02	1.32	.22	.33	.35	.94
June	Girls	37	6.69	1.65	.27			

The mean score for the boys of the Auditory Group in September was higher than that of the girls--1.95, compared to 1.90. The boys were still ahead in June--7.02 words, compared with 6.69. None of these differences were statistically significant.

TABLE XXXII shows the results of the learning rate tests in September, November and June for the control group.

TABLE XXXII
LEARNING RATE TESTS OF CONTROL GROUP

Test	Sex	No.	Mean	S.D.	S.E. _m	Diff.	S.E. Diff.	Critical Ratio
Sept.	Boys	39	1.77	.94	.15	.36	.22	1.63
Sept.	Girls	36	2.13	.99	.16			
Nov.	Boys	39	2.65	1.46	.23	.04	.34	.11
Nov.	Girls	36	2.69	1.48	.24			
June	Boys	39	3.57	2.20	.35	1.48	.49	3.02
June	Girls	36	5.05	2.05	.34			

The mean score for the girls of the control group was 2.13 words compared with 1.77 words for the boys. This difference is not statistically significant. The November test showed the boys and girls about equal--2.69 for the girls, compared with 2.65 for the boys. The mean score for

TABLE IX shows the results of the learning rate tests in September.

November and June for the control group.

TABLE IX

LEARNING RATE TESTS OF AUDITORY GROUP

Test	Sex	No.	Mean	S.D.	S.E.	Diff.	S.D.	Calculated
Sept.	Boys	25	1.77	.24	.15	.38	.28	.32
Sept.	Girls	27	1.50	.19	.15			
Nov.	Boys	25	1.54	.24	.15	.38	.28	.32
Nov.	Girls	27	1.23	.21	.15			
June	Boys	25	1.54	.24	.15	.38	.28	.32
June	Girls	27	1.23	.21	.15			

The mean score for the boys of the auditory group in September was higher than that of the girls-1.54, compared to 1.23. The boys were still ahead in June-1.54 words, compared with 1.23. None of these differences were statistically significant.

TABLE X shows the results of the learning rate tests in September.

November and June for the control group.

TABLE X

LEARNING RATE TESTS OF CONTROL GROUP

Test	Sex	No.	Mean	S.D.	S.E.	Diff.	S.D.	Calculated
Sept.	Boys	25	1.77	.24	.15	.38	.28	1.22
Sept.	Girls	25	1.13	.23	.15			
Nov.	Boys	25	1.54	.24	.15	.38	.28	.11
Nov.	Girls	25	1.23	.21	.15			
June	Boys	25	1.54	.24	.15	.38	.28	1.02
June	Girls	25	1.08	.24	.15			

The mean score for the girls of the control group was 1.13 words compared with 1.77 words for the boys. This difference is not statistically significant. The November test showed the boys and girls about equal-1.54 for the girls, compared with 1.23 for the boys. The mean score for

the girls on the June test was 5.05 words compared with 3.57 for the boys. The critical ratio being 3.02, this is a statistical significant difference in favor of the girls. This is the only group where the difference in the learning rate between the boys and girls was statistically significant.

Sex Differences in Growth in Reading

TABLE XXXIII shows the results of the reading tests in November, February and June for the combined group.

TABLE XXXIII
READING TESTS OF COMBINED GROUP

Test	Sex	No.	Mean	S.D.	S.E. _m	Diff.	S.E. _{Diff}	C.R.
Detroit Nov.	Boys	41	7.93	6.45	1.00	1.11	1.66	.66
Detroit Nov.	Girls	34	9.04	7.71	1.32			
Oral Feb.	Boys	41	90.90	33.40	5.22	6.00	7.79	.75
Oral Feb.	Girls	34	96.90	28.70	5.79			
Detroit June	Boys	41	20.56	8.64	1.35	2.04	2.10	.97
Detroit June	Girls	34	22.60	9.42	1.61			

The mean score for the girls of the combined group in November was 9.04 words, compared with 7.93 words for the boys. The mean score for the girls in February was 96.90, compared with 90.90 for the boys. The mean score for the girls in June was 22.60, compared with 20.56. None of these differences ^{WAS} were statistically significant. The critical ratios remained about the same-- .66, .77, .97, --all in favor of the girls.

The girls on the June test were 8.04 words compared with 8.14 for the boys. The critical ratio being 1.02, this is a statistical significant difference in favor of the girls. This is the only group where the difference in learning rate between the boys and girls was statistically significant.

Sex Differences in Progress in Reading

TABLE XXIII shows the results of the reading tests in November, January and June for the combined group.

TABLE XXIII
READING TESTS ON COMBINED GROUP

Test	Sex	No. Mean	S.D.	S.E.	Diff.	S.D. Diff.	C.R.
October	Boys	41	7.33	0.65	1.11	1.00	.98
	Girls	35	8.04	0.71			
April	Boys	41	20.90	2.40	2.00	1.75	.75
	Girls	34	22.90	2.79			
June	Boys	41	30.33	3.43	2.02	2.10	.91
	Girls	34	32.30	3.43			

The mean score for the girls at the combined group in November was 8.04 words, compared with 7.33 words for the boys. The mean score for the girls in February was 22.90, compared with 20.90 for the boys. The mean score for the girls in June was 32.30, compared with 30.33. None of these differences were statistically significant. The critical ratios remained about the same--.68, .77, .87,--all in favor of the girls.

TABLE XXXIV shows the results of the reading tests in November, February and June for the visual group.

TABLE XXXIV
READING TESTS OF VISUAL GROUP

Test	Sex	No.	Mean	S.D.	S.E. _m	Diff.	S.E. Diff.	C.R.
Detroit Nov.	Boys	33	5.47	4.05	.70	2.34	1.21	1.93
Detroit Nov.	Girls	42	7.81	6.45	.99			
Oral Feb.	Boys	33	80.30	29.50	5.14	9.60	6.90	1.39
Oral Feb.	Girls	42	89.90	29.90	4.61			
Detroit June	Boys	33	17.17	8.67	1.51	3.69	1.99	1.89
Detroit June	Girls	42	20.86	8.43	1.30			

The mean score for the girls of the Visual group in November was 7.81 words, compared with 5.47 words for the boys; in February was 89.90, compared with 80.30; and in June was 20.86, compared with 17.17. None of these differences were statistically significant. The critical ratios remained rather constant--1.93, 1.39, and 1.89--all in favor of the girls.

TABLE XXXV shows the results of the reading tests in November, February and June for the auditory group.

TABLE XXIV shows the results of the reading tests in November.

February and June for the visual group.

TABLE XXIV
READING TESTS OF VISUAL GROUP

Test	Sex	No. Words	S.D.	S.E.	Nov.	S.E. Diff.	S.D.
Detroit Nov.	Boys	33	8.87	4.08	7.0	1.31	1.98
	Girls	43	7.81	4.43	9.9		
Oral Feb.	Boys	32	20.93	8.14	9.43	1.40	1.18
	Girls	43	20.98	4.41			
Detroit June	Boys	33	19.17	8.07	1.81	1.39	1.39
	Girls	43	20.80	4.43	1.43		

The mean scores for the girls of the visual group in November was 7.81 words, compared with 8.87 words for the boys; in February was 20.98, compared with 20.93; and in June was 20.80, compared with 19.17. None of these differences were statistically significant. The visual group performed rather consistently—1.98, 1.39, and 1.43—all in favor of the girls.

TABLE XXV shows the results of the reading tests in November, February

and June for the auditory group.

TABLE XXXV
READING TEST OF AUDITORY GROUP

Test	Sex	No.	Mean	S.D.	S.E. _m	Diff	S.E. _{Diff}	C.R.
Detroit Nov.	Boys	38	4.54	4.26	.69	.24	.93	.25
Detroit Nov.	Girls	37	4.30	3.81	.62			
Oral Feb.	Boys	38	70.80	33.40	5.42	9.40	7.72	1.21
Oral Feb.	Girls	37	80.20	33.50	5.50			
Detroit June	Boys	38	21.04	9.06	1.47	1.08	2.13	.50
Detroit June	Girls	37	19.96	9.36	1.54			

The mean score for the boys of the auditory group in November was 4.54 words compared with 4.30 words for the girls. The mean score for the girls in February was 80.20, compared with 70.80 for the boys. The mean score for the boys in June was 21.04, compared with 19.96 words for the girls. None of these differences were statistically significant. The critical ratio in November was .25 in favor of the boys; in February 1.21 in favor of the girls and in June .50 in favor of the boys.

TABLE XXXVI shows the results of the reading tests in November, February and June for the control group.

TABLE XXXVI
READING TESTS OF CONTROL GROUP

Test	Sex	No.	Mean	S.D.	S.E. _m	Diff.	S.E. Diff.	C.R.
Detroit Nov.	Boys	39	1.36	.53	.08	1.65	.15	11.00
Detroit Nov.	Girls	36	3.01	.82	.13			
Oral Feb.	Boys	39	47.00	26.00	4.16	28.20	6.46	4.36
Oral Feb.	Girls	36	75.20	29.70	4.95			
Detroit June	Boys	39	11.68	6.66	1.06	6.00	1.17	5.12
Detroit June	Girls	36	17.68	3.03	.50			

The mean score for the girls of the control group in November was 3.01 compared with 1.36 for the boys; in February 75.20 words compared with 47. words; and in June 17.68 words compared with 11.68 words. All these differences were statistically significant in favor of the girls--the critical ratios being 11.00, 4.36, and 5.12.

The mean mental age for the boys was superior to that of the girls but still the girls had higher reading scores. This was the only group where the differences were statistically significant. This is too small a number of cases to make any definite conclusions concerning these differences, but it appears that the boys who had had specific auditory and visual training did better than those who did not have it.

TABLE XXVI
READING TESTS IN VERTICAL GROUP

Test	Sex	No.	Mean	S.D.	A.E.	1933	S.D.	C.E.
Detroit Nov.	Boys	30	1.50	.25	.10	1.50	.15	1.00
Detroit Nov.	Girls	30	2.01	.30	.15			
Oral Feb.	Boys	30	22.00	4.18	1.50	20.50	0.50	1.50
Oral Feb.	Girls	30	23.70	4.30				
Detroit June	Boys	30	11.50	5.42	1.50	9.00	1.17	0.10
Detroit June	Girls	30	17.40	5.02	.50			

The mean score for the girls of the control group in November was 2.01 compared with 1.50 for the boys; in February 23.70 words compared with 22.00 words; and in June 17.40 words compared with 11.50 words. All these differences were statistically significant in favor of the girls--the critical values being 11.00, 4.30, and 5.12.

The mean mental age for the boys was superior to that of the girls but still the girls had higher reading scores. This was the only group where the differences were statistically significant. This is too small a number of cases to make any definite conclusions concerning these differences, but it appears that the boys who had specific auditory and visual training did better than those who did not have it.

Sex Differences in Visual Discrimination

TABLE XXXVII shows the results of the visual discrimination tests in September and November for the combined group.

TABLE XXXVII
VISUAL TESTS OF COMBINED GROUP

Test	Sex	No.	Mean	S.D.	S.E. _m	Diff.	S.E. _{Diff.}	C.R.
Sept.	Boys	41	15.28	4.02	.62	1.32	.87	1.51
Sept.	Girls	34	16.60	3.60	.61			
Nov.	Boys	41	32.42	7.32	1.14	4.16	1.65	2.52
Nov.	Girls	34	36.58	7.02	1.20			

The mean score for the girls in September was 15.28, compared with 16.60 for the boys, and in November 36.58 compared with 32.42. The chances are 86 out of a hundred that the first difference is a true one, and 98 out of a hundred that the second one is.

TABLE XXXVIII shows the results of the visual discrimination tests in September and November for the visual group.

TABLE XXXVIII
VISUAL TESTS OF VISUAL GROUP

Test	Sex	No.	Mean	S.D.	S.E. _m	Diff.	S.E. _{Diff.}	C.R.
Sept.	Boys	33	14.77	3.33	.58	.33	.79	.41
Sept.	Girls	42	14.44	4.05	.62			
Nov.	Boys	33	34.09	7.59	1.32	2.19	1.71	1.87
Nov.	Girls	42	36.28	7.11	1.09			

The mean score for the boys in September was 14.77 compared with 14.44 for the girls. The mean score for the girls in November was 36.28 compared with 34.09 for the boys. The chances are 92 out of a hundred that this is

TABLE LXVIII shows the results of the visual discrimination tests in September and November for the combined group.

TABLE LXVIII
VISUAL TESTS IN COMBINED GROUP

Test	Sex	No. Mean	S.D.	S.E.	Diff.	S.D. Diff.	S.E.
Sept. Boys	41	18.88	4.04	.62	1.32	.67	.21
Sept. Girls	34	18.80	3.51	.61			
Nov. Boys	41	22.12	7.34	1.14	4.18	1.62	.53
Nov. Girls	36	27.83	7.02	1.20			

The mean score for the girls in September was 18.80, compared with 18.80 for the boys, and in November 22.12 compared with 22.12. The chances are 55 out of a hundred that the first difference is a true one, and 55 out of a hundred that the second was so.

TABLE LXVIII shows the results of the visual discrimination tests in September and November for the visual group.

TABLE LXVIII
VISUAL TESTS IN VISUAL GROUP

Test	Sex	No. Mean	S.D.	S.E.	Diff.	S.D. Diff.	S.E.
Sept. Boys	33	16.77	4.33	.75	.55	.75	.24
Sept. Girls	42	14.64	4.08	.62			
Nov. Boys	33	24.32	7.53	1.32	2.12	1.71	.53
Nov. Girls	42	26.26	7.11	1.09			

The mean score for the boys in September was 16.77 compared with 14.64 for the girls. The mean score for the girls in November was 26.26 compared with 24.32 for the boys. The chances are 55 out of a hundred that this is

a true difference in favor of the girls.

TABLE XXXIX shows the results of the visual tests in September and November for the auditory group.

TABLE XXXIX
VISUAL TESTS OF AUDITORY GROUP

Test	Sex	No.	Mean	S.D.	S.E. _m	Diff.	S.E. Diff	C.R.
Sept.	Boys	38	15.76	2.85	.46	.90	.58	1.55
Sept.	Girls	37	14.86	3.39	.35			
Nov.	Boys	38	32.86	5.97	.96	1.28	1.33	.96
Nov.	Girls	37	34.14	8.31	1.36			

The mean score for the boys was 15.76, compared with 14.86 for the girls in September, and in November it was 34.14 for the girls compared with 32.86 for the boys. This group had had no specific visual training. The girls improved more than the boys.

TABLE XL shows the results of the visual tests in September and November for the control group.

TABLE XL
VISUAL TESTS OF CONTROL GROUP

Test	Sex	No.	Mean	S.D.	S.E. _m	Diff.	S.E. Diff.	C.R.
Sept.	Boys	39	14.23	3.15	.50	.33	.70	.47
Sept.	Girls	36	14.56	2.97	.49			
Nov.	Boys	39	31.75	7.20	1.15	2.34	1.98	1.18
Nov.	Girls	36	29.41	9.69	1.61			

The mean score for the girls was 14.56 compared with 14.23 for the boys, in September, and in November it was 29.41 compared with 31.75. This is the only group in which the girls were superior in September and the boys in November.

A gross difference in favor of the girls.

TABLE XIII shows the results of the visual tests in September and November for the auditory group.

TABLE XIII
VISUAL TESTS OF AUDITORY GROUP

Test	Sex	No.	Mean	S.D.	S.E.	Diff.	S.E. Diff.
Sept.	Boys	30	14.75	2.55	.45	.70	.35
Sept.	Girls	37	15.50	2.30	.38		
Nov.	Boys	30	15.66	2.37	.42	1.35	1.35
Nov.	Girls	37	14.15	2.31	1.30		

The mean score for the boys was 14.75, compared with 14.58 for the girls in September, and in November it was 15.15 for the girls compared with 15.66 for the boys. This group had no specific visual training. The girls improved more than the boys.

TABLE XI shows the results of the visual tests in September and November for the control group.

TABLE XI
VISUAL TESTS OF CONTROL GROUP

Test	Sex	No.	Mean	S.D.	S.E.	Diff.	S.E. Diff.
Sept.	Boys	30	14.33	2.15	.39	.35	.35
Sept.	Girls	37	14.38	2.07	.35		
Nov.	Boys	30	17.77	2.50	1.15	2.35	1.35
Nov.	Girls	37	17.41	2.00	1.01		

The mean score for the girls was 14.58 compared with 14.58 for the boys in September, and in November it was 17.41 compared with 17.77. This is the only group in which the girls were superior in September and the boys in November.

Sex Differences In Lee-Clark Tests

TABLE XLI shows the results of the Lee-Clark tests in September and November for the combined group.

TABLE XLI
LEE-CLARK SCORES OF COMBINED GROUP

Test	Sex	No.	Mean	S.D.	S.E. _m	Diff.	S.E. _{Diff.}	C.R.
Sept.	Boys	41	28.30	12.30	1.92	4.45	2.84	1.56
Sept.	Girls	34	32.75	12.25	2.10			
Nov.	Boys	41	42.35	8.15	1.27	.20	1.81	.11
Nov.	Girls	34	42.55	7.55	1.29			

The mean score for the girls in September was 32.75 compared with 28.30 for the boys and in November 42.55 compared with 42.35. The boys in this group made the largest gain on this test.

TABLE XLII shows the results of the Lee-Clark test in September and November for the visual group.

TABLE XLII
LEE-CLARK SCORES OF VISUAL GROUP

Test	Sex	No.	Mean	S.D.	S.E. _m	Diff.	S.E. _{Diff.}	C.R.
Sept.	Boys	33	25.95	11.00	1.91	1.60	2.56	.62
Sept.	Girls	42	27.55	11.10	1.71			
Nov.	Boys	33	43.05	5.95	1.03	1.35	1.31	1.03
Nov.	Girls	42	44.40	5.20	.80			

The mean score for the girls in September was 27.55 compared with 25.95 for the boys, and in November 44.40 compared with 43.05.

TABLE III shows the results of the Lee-Clark tests in September and November for the combined group.

TABLE III
LEE-CLARK SCORES ON COGNITIVE TEST

Test	Sex	No.	Mean	S.D.	S.E.	Diff.	S.E. Diff.
Sept.	Boys	41	21.30	12.45	1.92	4.45	0.95
Sept.	Girls	34	22.73	12.50	2.10		1.00
Nov.	Boys	41	22.25	9.15	1.37		1.11
Nov.	Girls	34	22.25	7.55	1.25		1.11

The mean score for the girls in September was 22.73 compared with 22.25 for the boys and in November 22.25 compared with 22.25. The boys in this group made the largest gain on this test.

TABLE IIII shows the results of the Lee-Clark test in September and November for the visual group.

TABLE IIII
LEE-CLARK SCORES ON VISUAL TEST

Test	Sex	No.	Mean	S.D.	S.E.	Diff.	S.E. Diff.
Sept.	Boys	33	23.93	11.00	1.91	1.60	1.00
Sept.	Girls	42	27.38	11.10	1.71		1.00
Nov.	Boys	33	23.00	8.98	1.55	1.60	1.00
Nov.	Girls	42	24.40	9.20	1.40		1.00

The mean score for the girls in September was 27.38 compared with 23.93 for the boys, and in November 24.40 compared with 23.00.

TABLE XLIII shows the results of the Lee-Clark tests in September and November for the auditory group.

TABLE XLIII
LEE-CLARK TESTS OF AUDITORY GROUP

Test	Sex	No.	Mean	S.D.	S.E. _m	Diff.	S.E. _{Diff.}	C.R.
Sept.	Boys	38	29.00	10.05	1.63	4.35	2.56	1.70
Sept.	Girls	37	33.35	12.00	1.97			
Nov.	Boys	38	41.75	8.30	1.34	3.60	1.42	2.53
Nov.	Girls	37	38.15	2.91	.48			

The mean score for the girls in September was 33.35 compared with 29.00 for the boys, and in November 38.15 compared with 41.75. The boys in this group made the largest gains on this test.

TABLE XLIV shows the results of the Lee-Clark tests for the control group.

TABLE XLIV
LEE-CLARK TESTS OF CONTROL GROUP

Test	Sex	No.	Mean	S.D.	S.E. _m	Diff.	S.E. _{Diff.}	C.R.
Sept.	Boys	39	27.10	11.90	1.91	.65	2.82	.23
Sept.	Girls	36	26.45	12.45	2.07			
Nov.	Boys	39	36.50	10.70	1.71	.62	2.47	.25
Nov.	Girls	36	37.10	10.75	1.79			

The mean score for the girls in this group in September was 26.45 compared with 27.10 for the boys, and in November 37.10 compared with 36.50. The girls made the largest gain, but the difference was not statistically significant.

TABLE XIII shows the results of the low-dose tests in September and

November for the antibody group.

TABLE XIII
LOW-DOSE TESTS OF ANTIBODY GROUP

Test	Sex	No.	Mean	S.E.	S.E. _m	Diff.	S.E. Diff.	C.V.
Sept. Boys	Boys	48	50.00	1.00	1.75	0.88	2.50	1.70
Sept. Girls	Girls	37	52.35	12.00	1.87			
Nov. Boys	Boys	58	51.72	4.45	1.38	0.50	1.42	2.73
Nov. Girls	Girls	37	50.15	5.84	.88			

The mean score for the girls in September was 52.35 compared with 50.

for the boys, and in November 50.15 compared with 51.72. The boys in this

group made the largest gain on this test.

TABLE XIII shows the results of the low-dose tests for the antibody

group.

TABLE XIII
LOW-DOSE TESTS OF CONTROL GROUP

Test	Sex	No.	Mean	S.E.	S.E. _m	Diff.	S.E. Diff.	C.V.
Sept. Boys	Boys	48	57.15	11.50	1.83	.88	1.58	.74
Sept. Girls	Girls	38	56.48	12.48	2.04			
Nov. Boys	Boys	58	58.80	10.75	1.71	.88	2.47	.50
Nov. Girls	Girls	38	57.10	10.75	1.70			

The mean score for the girls in this group in September was 57.15

compared with 57.10 for the boys, and in November 57.10 compared with 58.80.

The girls made the largest gain, but the difference was not statistically

significant.

Sex Differences In Auditory Discrimination

TABLE XLV shows the results of the auditory tests in September and November for the combined group.

TABLE XLV
AUDITORY TESTS OF COMBINED GROUP

Test	Sex	No.	Mean	S.D.	S.E. _m	Diff.	S.E. _{Diff}	C.R.
Sept.	Boys	41	34.60	16.25	2.54	3.90	4.48	.80
Sept.	Girls	34	38.50	21.50	3.69			
Nov.	Boys	41	71.00	29.20	4.56	11.00	6.36	1.74
Nov.	Girls	34	82.10	26.50	4.54			

The mean score for the girls in September was 38.50 compared with 34.60 for the boys, and in November 82.10 compared with 71.00. The girls made a larger gain than the boys, but the differences are not statistically significant.

TABLE XLVI shows the results of the auditory tests in September and November for the visual group.

TABLE XLVI
AUDITORY TESTS OF VISUAL GROUP

Test	Sex	No.	Mean	S.D.	S.E. _m	Diff.	S.E. _{Diff}	C.R.
Sept.	Boys	33	37.30	14.45	2.51	6.10	3.44	1.77
Sept.	Girls	42	31.20	15.30	2.36			
Nov.	Boys	33	69.00	23.10	4.02	5.70	5.28	1.07
Nov.	Girls	42	74.70	22.20	3.42			

The mean score for the girls in September was 31.26 compared with 37.30 for the boys, and in November 74.70 compared with 69. This group had had no specific auditory training, and the girls made a much greater improvement than the boys.

Sex Differences in Auditory Discrimination

TABLE XIV shows the results of the auditory tests in September and

November for the combined group.

TABLE XIV
AUDITORY TESTS OF COMBINED GROUP

Test	Sex	No.	Mean	S.D.	S.E.	Diff.	S.D. Diff.
Sept. Boys	Boys	41	55.40	15.85	2.44	3.90	4.55
Sept. Girls	Girls	34	55.90	11.80	2.03		
Nov. Boys	Boys	41	57.00	15.80	2.44	31.60	4.35
Nov. Girls	Girls	34	58.10	12.90	2.12		

The mean score for the girls in September was 55.90 compared with

54.80 for the boys, and in November 58.10 compared with 57.00. The girls

made a larger gain than the boys, but the differences are not statistically

significant.

TABLE XVI shows the results of the auditory tests in September and

November for the visual group.

TABLE XVI
AUDITORY TESTS OF VISUAL GROUP

Test	Sex	No.	Mean	S.D.	S.E.	Diff.	S.D. Diff.
Sept. Boys	Boys	25	57.50	14.45	2.81	6.10	3.44
Sept. Girls	Girls	42	51.50	12.40	1.95		
Nov. Boys	Boys	25	59.00	14.10	2.80	5.70	4.08
Nov. Girls	Girls	42	54.70	12.80	2.12		

The mean score for the girls in September was 51.50 compared with 57.50

for the boys, and in November 54.70 compared with 59.00. This group had had

no specific auditory training, and the girls made a much greater improve-

ment than the boys.

TABLE XLVII shows the results of the auditory tests in September and November for the auditory group.

TABLE XLVII
AUDITORY TESTS OF AUDITORY GROUP

Test	Sex	No.	Mean	S.D.	S.E. _m	Diff.	S.E. _{Diff.}	C.R.
Sept.	Boys	38	30.05	12.35	2.00	6.45	3.10	2.08
Sept.	Girls	37	23.60	14.45	2.37			
Nov.	Boys	38	61.20	26.10	4.23	6.20	6.62	.93
Nov.	Girls	37	67.40	31.00	5.09			

The mean score for the girls in September was 23.60 compared with 30.05 for the boys, and in November 67.40 compared with 61.20. The girls in this group showed a much greater improvement than the boys.

TABLE XLVIII shows the results of the auditory tests in September and November for the control group.

TABLE XLVIII
AUDITORY TESTS OF CONTROL GROUP

Test	Sex	No.	Mean	S.D.	S.E. _m	Diff.	S.E. _{Diff.}	C.R.
Sept.	Boys	39	25.10	12.70	2.03	4.45	2.82	1.59
Sept.	Girls	36	29.55	11.80	1.96			
Nov.	Boys	39	64.50	17.08	2.73	8.50	3.98	2.13
Nov.	Girls	36	73.00	17.40	2.90			

The mean score for the girls in September was 29.55 compared to 25.10 for the boys, and in November 73.00 compared with 64.50. The girls in this group made a larger gain than the boys.

TABLE XVII shows the results of the auditory tests in September and November for the auditory group.

TABLE XVII
AUDITORY TESTS OF AUDITORY GROUP

Test	Sex	No.	Mean	S.D.	S.E.	Diff.	S.D. Diff.	S.E. Diff.
Sept.	Boys	38	30.08	13.30	2.00	8.48	2.10	0.33
Sept.	Girls	37	24.80	14.48	2.37			
Nov.	Boys	39	31.30	20.12	3.23	8.30	0.32	0.33
Nov.	Girls	37	27.40	21.50	3.02			

The mean score for the girls in September was 24.80 compared with 30.08 for the boys, and in November 27.40 compared with 31.30. The girls in this group showed a much greater improvement than the boys.

TABLE XVIII shows the results of the auditory tests in September and November for the control group.

TABLE XVIII
AUDITORY TESTS OF CONTROL GROUP

Test	Sex	No.	Mean	S.D.	S.E.	Diff.	S.D. Diff.	S.E. Diff.
Sept.	Boys	39	28.10	12.30	1.92	4.48	2.02	0.33
Sept.	Girls	38	29.30	11.50	1.82			
Nov.	Boys	39	34.80	17.30	2.81	8.30	0.32	0.33
Nov.	Girls	38	32.00	17.40	2.80			

The mean score for the girls in September was 29.30 compared with 28.10 for the boys, and in November 32.00 compared with 34.80. The girls in this group made a larger gain than the boys.

Effect of Auditory Training on Groups of Pupils With Low, Medium and High Initial Auditory Test Scores

The children in the auditory and control groups were divided into low, medium and high groups on the basis of their scores on the initial auditory tests.

TABLE XLIX shows the results of the June reading tests for the twenty-five children in each group with the lowest scores on the auditory test.

TABLE XLIX
JUNE READING TEST SCORES OF LOW GROUP

Group	Mean Reading	S.D.	S.E. _m	Diff.	S.E. Diff.	C.R.
Auditory	21.68	9.24	1.84	10.62	2.20	4.82
Control	10.99	6.08	1.21			

The mean score for the control group was 10.99 compared with 21.61 for the auditory group. The critical ratio being 4.82 shows this difference to be statistically significant in favor of the auditory group.

TABLE L shows the results of the June reading tests for the twenty-five children in each group with medium scores on the auditory test.

TABLE L
JUNE READING TEST SCORES OF MEDIUM GROUP

Group	Mean Reading	S.D.	S.E. _m	Diff.	S.E. Diff.	C.R.
Auditory	19.60	8.85	1.77	5.04	2.49	2.02
Control	14.56	8.72	1.76			

The mean score for the control group was 14.56 compared with 19.60 for the auditory group. The chances are 95 out of a hundred that this is a true difference in favor of the auditory group.

Initial Auditory Test Scores

The children in the auditory and control groups were divided into low, medium and high groups on the basis of their scores on the initial auditory tests.

TABLE XIX shows the results of the first reading tests for the twenty-five children in each group with the lowest scores on the auditory test.

TABLE XIX
FIRST READING TEST SCORES OF LOW GROUP

Group	Mean Reading	S.D.	S.E.	T-Test	S.D.	C.R.
Auditory	27.00	9.54	1.84	10.52	8.50	4.82
Control	10.00	8.00	1.50			

The mean score for the control group was 10.00 compared with 27.00 for the auditory group. The critical ratio being 4.82 shows that differences are statistically significant in favor of the auditory group.

TABLE I shows the results of the first reading tests for the twenty-five children in each group with medium scores on the auditory test.

TABLE I
FIRST READING TEST SCORES OF MEDIUM GROUP

Group	Mean Reading	S.D.	S.E.	T-Test	S.D.	C.R.
Auditory	18.00	5.50	1.10	4.04	5.40	2.02
Control	14.50	8.75	1.75			

The mean score for the control group was 14.50 compared with 18.00 for the auditory group. The chances are 92 out of a hundred that this is a true difference in favor of the auditory group.

TABLE LI shows the results of the June reading tests for the twenty-five children in each group with the highest scores on the auditory test.

TABLE LI
JUNE READING TEST SCORES OF HIGH GROUP

Group	Mean Reading	S.D.	S.E. m	Diff.	S.E. Diff.	C.R.
Auditory	17.98	9.15	1.83	.08		
Control	17.82	6.72	1.34			

The mean scores for both groups are about equal. The numbers in these groups are too small to make any general conclusions, but there seems to be a tendency as the auditory scores improve to eliminate some of the difference in the reading scores. The greatest difference is between the groups with the lowest auditory scores.

Effect of Visual Training on Groups of Pupils with Low, Medium and High

Initial Visual Test Scores

The children in the visual and control groups were divided into low, medium and high groups on the basis of their scores on the initial visual tests.

TABLE LII shows the results of the June reading tests for the twenty-five children in each group having the lowest scores on the visual tests.

TABLE LII
JUNE READING TEST SCORES OF LOW GROUP

Group	Mean Reading	S.D.	S.E. m	Diff.	S.E. Diff.	C.R.
Visual	15.28	8.85	1.77	5.40	2.16	2.50
Control	9.88	6.27	1.25			

The mean score for the control group is 9.88 compared with 15.28 for the visual group. The chances are 98 out of a hundred that this is a true difference in favor of the visual group.

TABLE II shows the results of the two reading tests for the twenty-five children in each group with the highest scores on the auditory test.

TABLE II
THE READING TEST SCORES OF HIGH GROUP

Group	Mean Reading	S.D.	S.E.	Shift	S.E.	S.D.
Auditory	19.58	2.18	1.08			
Control	19.32	2.72	1.04			

The mean scores for both groups are about equal. The standard deviations are not small, but there seems to be a tendency as the auditory scores improve to eliminate some of the differences in the reading scores. The greatest difference is between the groups with the lowest auditory scores.

Effect of Visual Training on Groups of Pupils with Low, Medium and High Initial Visual Test Scores

Initial Visual Test Scores

The children in the visual and control groups were divided into low, medium and high groups on the basis of their scores on the initial visual test. TABLE III shows the results of the two reading tests for the twenty-five children in each group having the lowest scores on the visual test.

TABLE III
THE READING TEST SCORES OF LOW GROUP

Group	Mean Reading	S.D.	S.E.	Shift	S.E.	S.D.
Visual	15.42	2.66	1.17			
Control	15.68	2.57	1.22			

The mean score for the control group is 15.68 compared with 15.42 for the visual group. The standard deviations are not of a hundred that this is a true difference in favor of the visual group.

TABLE LIII shows the results of the June reading tests for the twenty-five children in each group that had medium scores on the visual tests.

TABLE LIII
JUNE READING TEST SCORES OF MEDIUM GROUP

Group	Mean Reading	S.D.	S.E. _m	Diff.	S.E. _{Diff.}	C.R.
Visual	19.60	8.22	1.64	5.16	2.15	2.40
Control	14.44	8.04	1.40			

The mean score for the control group is 14.44 compared with 19.60 for the visual group. The chances are 98 out of a hundred that this is a true difference in favor of the visual group.

TABLE LIV shows the results of the June reading tests for the twenty-five children in each group who had the highest scores on the visual tests.

TABLE LIV
JUNE READING TEST SCORES OF HIGH GROUP

Group	Mean Reading	S.D.	S.E. _m	Diff.	S.E. _{Diff.}	C.R.
Visual	22.72	7.35	1.47	3.48	2.19	1.53
Control	19.24	8.16	1.63			

The mean score for the control group is 19.24 compared with 22.72 for the visual group. Just as in the auditory group, as the visual test scores improve, the reading scores are more nearly equal.

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Group	Mean	SD	SE	95% CI	99% CI
Control	10.00	1.00	0.10	9.80 - 10.20	9.60 - 10.40
Experimental	10.00	1.00	0.10	9.80 - 10.20	9.60 - 10.40

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Group	Mean	SD	SE	95% CI	99% CI
Control	10.00	1.00	0.10	9.80 - 10.20	9.60 - 10.40
Experimental	10.00	1.00	0.10	9.80 - 10.20	9.60 - 10.40

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Relationships Between Preliminary Tests and Reading Achievement

TABLE LV shows the relationships between the scores on the preliminary tests and the Detroit test in June for the control group.

TABLE LV
RELATIONSHIPS BETWEEN PRELIMINARY TESTS AND READING ACHIEVEMENT*

Tests	Number	r.	P.E.
Learning Rate & Detroit	74	.46	.09
Mental Age & Detroit	74	.16	.11
Lee-Clark & Detroit	74	.37	.099
Auditory & Detroit	74	.33	.10
Visual & Detroit	74	.43	.094

* Product-moment method of correlation

Since all of these correlations are positive, it may be said that there is some relationship between these tests and reading achievement. Statistically, however, the correlations are relatively low. The correlation between learning rate and reading achievement is the highest--.46--yet this is not high enough to be of definite value in predicting success in beginning reading.

TABLE LVI shows the relationships in June.

TABLE LVI
RELATIONSHIPS IN JUNE*

Factors	Group	Number	r.	P.E.
Learning Rate & Detroit	Entire Population	293	.64	.022
Learning Rate & Detroit	Control Group	74	.67	.043

* Product-moment method of correlation

$$PE = \frac{1-r^2}{\sqrt{N}} \cdot \frac{2}{3}$$

Table IV shows the relationships between the scores on the preliminary tests and the Detroit test in each of the control group.

TABLE IV
RELATIONSHIPS BETWEEN PRELIMINARY TESTS AND READING ACHIEVEMENT

Factor	Group	r	P.E.
Learning Rate & Detroit	75	.45	.01
Mental Age & Detroit	75	.15	.21
Low-Clark & Detroit	75	.27	.002
Analogy & Detroit	75	.25	.10
Vocabulary & Detroit	75	.45	.004

Product-moment method of correlation

Since all of these correlations are positive, it may be said that there is some relationship between these tests and reading achievement. Actually, however, the correlations are relatively low. The correlation between learning rate and reading achievement is the highest--.45--but this is not high enough to be of definite value in predicting success in learning reading.

TABLE IVI shows the relationships in Area

TABLE IVI
RELATIONSHIPS IN AREA

Factor	Group	Number	r	P.E.
Learning Rate & Detroit	Basic Population	292	.45	.002
Learning Rate & Detroit	Control Group	75	.27	.002

Product-moment method of correlation

Statistically both of the correlations are relatively high and positive. That of the control group is higher than that of the entire population--.67 as compared with .64. The reading tests have shown the effect of the specific training in the experimental groups which may account for this difference.

The Learning-Rate test is affected by the examiner. In this case the testing was done by a person other than the class-room teacher. The relationship in both instances is high enough to indicate that a Learning-Rate test would be of value to the class-room teacher in grouping the children for teaching.

1. The learning rate
2. The reading score
3. The change in the child's visual perception of words, and
4. The change in the child's auditory discrimination between identical and different words.

Tests were constructed to measure various functions in beginning reading. These tests were given in September to 112 first grade children. The children were divided into four groups of approximately 28 each. One group was taught material designed to develop visual discrimination and material designed to develop auditory discrimination for ten minutes a day for thirty consecutive school days. The second group was taught the visual material only for ten minutes a day, and the third group was taught the auditory material only for the same amount of time, while the fourth group--the control group--got no particular training. The battery of tests was repeated at the close of the teaching period. An individual oral reading test was given in February and a learning-rate test and reading test in June.

Statistically both of the correlations are relatively high and positive.
That of the control group is higher than that of the entire population--.57
as compared with .54. The reading tests have shown the effect of the specific
training in the experimental group which may account for this difference.
The learning-rate test is affected by the situation. In this case the
reading was done by a person other than the class-room teacher. The relation-
ship in both instances is high enough to indicate that a learning-rate test
would be of value to the class-room teacher in grouping the children for
reading.

CHAPTER V

SUMMARY AND CONCLUSIONS

The purpose of this study was to evaluate the effect of the combination of specific exercises for auditory and visual discrimination, the effect of specific exercises for visual discrimination and the effect of specific exercises for auditory discrimination in beginning first grade on:

1. The learning rate
2. The reading score
3. The change in the child's visual perception of words, and
4. The change in the child's auditory discrimination between likenesses and differences in words.

Tests were constructed to measure various functions in beginning reading. These tests were given in September to 540 first grade children. The children were divided into four groups of approximately 120 each. One group was taught material designed to develop visual discrimination and material designed to develop auditory discrimination for ten minutes a day for thirty successive school days. The second group was taught the visual material only for ten minutes a day, and the third group was taught the auditory material only for the same amount of time, while the fourth group--the control group--had no particular training. The battery of tests was repeated at the close of the teaching period. An individual oral reading test was given in February and a learning-rate test and reading test in June.

Conclusions:

A. The effect of the experimental materials on Reading Achievement

1. All experimental groups were superior to the control group in Reading achievement in November, February and June. At every measuring period after the auditory and visual discrimination exercises had been given, the experimental groups showed statistically significant superiority in reading achievement to the control group.

2. In the Detroit Word Recognition Test in November the three experimental groups were superior to the control group. The mean score for the combined group was 8.05 words, for the visual group 7.24 words, and for the auditory group 4.24 words, compared with 2.53 words for the control group. The critical ratios being 7.17, 6.63, and 3.66 showed these differences all to be statistically significant.

3. The individual Oral Reading Test in February showed the three experimental groups to be superior to the control group. The mean score for the combined group was 93.40 words, for the visual group 85 words, and for the auditory group 75.70 words, compared with 59.40 words for the control group. The critical ratios being 6.69, 4.61 and 3.08 showed all these differences to be statistically significant.

4. The Detroit Word Recognition Test in June showed the three experimental groups superior to the control group. The mean score for the combined group was 21.46, for the visual group 19.12 words, and for the auditory group 19.99 words compared with 14.53 words for the control group. The critical ratios being 5.09, 3.47 and 3.90 showed these differences to be statistically significant.

1. The effect of the experimental treatment on the control group.

Results:

1. All experimental groups were superior to the control group in learning achievement in the post-test, however, the experimental groups were superior to the control group after the training and initial classification exercises had been given, the experimental groups showed statistically significant improvement in learning achievement in the control group.

2. In the post-test the experimental groups were superior to the control group.

The three experimental groups were superior to the control group. The mean score for the combined group was 7.15 words, for the control group 7.15 words, and for the auditory group 6.15 words, compared with 6.15 words for the control group. The critical value was 7.15, 6.15, and 6.15 words.

Differences are to be statistically significant.

3. The individual test results were in the control group.

The three experimental groups were superior to the control group. The mean score for the combined group was 10.15 words, for the control group 10.15 words, and for the auditory group 10.15 words, compared with 10.15 words for the control group. The critical value was 10.15, 10.15, and 10.15 words.

Differences are to be statistically significant.

4. The post-test results were in the control group.

The three experimental groups were superior to the control group. The mean score for the combined group was 10.15 words, for the control group 10.15 words, and for the auditory group 10.15 words, compared with 10.15 words for the control group. The critical value was 10.15, 10.15, and 10.15 words.

Differences are to be statistically significant.

5. The June reading achievement test scores showed the experimental teaching materials to be in the following order of increasing effectiveness: visual perception training, auditory perception training, visual and auditory training combined. The differences between the three types were slight--visual being 19.12, auditory 18.99, combined 21.46, compared to 14.53 for the control group.

6. The reading achievement test in November showed the experimental teaching materials to be in the following order of increasing effectiveness: auditory perception training, visual perception training, combined visual and auditory perception training.

The February achievement test showed the same order, but the difference between the auditory and the other two was less than in November, and the June test showed the auditory group slightly superior to the visual. Visual training may be more effective in the beginning teaching.

B. Gains on Special Tests

1. All experimental groups showed significant increases as compared to the control group in rate-of-learning test scores.

a. The mean number of words learned for the combined group in November was 4.53, for the visual group 4.54, and for the auditory group 4.28, compared to 2.59 words for the control group. The critical ratios being 6.68, 7.22 and 6.44 showed that these differences were all statistically significant.

b. The mean number of words learned for the combined group in June was 6.98, for the visual group 6.34, and for the auditory group 6.87, compared with 4.29 for the control group. The critical

3. The two training conditions that were used in the experimental teaching materials to be in the following order of effectiveness: visual perception training, auditory perception training, and auditory-visual training. The differences between the three groups were slight-visual being 19.15, auditory 18.55, and auditory-visual 18.55 for the control group.

4. The training materials used in November showed the experimental teaching materials to be in the following order of effectiveness: auditory perception training, visual perception training, combined visual and auditory perception training. The primary subjects that showed the same order, but the differences between the auditory and the other two were not significant, and the two last showed the auditory group slightly superior to the visual. Visual training may be more effective in the beginning teaching.

B. Data on Special Tests

1. All experimental groups showed significant increases as compared to the control group in rate-of-learning test scores. The mean number of words learned for the combined group in November was 4.55, for the visual group 4.55, and for the auditory group 4.55, compared to 4.00 words for the control group. The statistical results being 4.55, 7.35 and 6.45 showed that these differences were all statistically significant.

2. The mean number of words learned for the combined group in June was 6.55, for the visual group 6.55, and for the auditory group 6.55, compared with 4.55 for the control group. The statistical results being 6.55, 7.35 and 6.45 showed that these differences were all statistically significant.

ratios being 8.96, 6.40 and 8.89 showed all these differences to be statistically significant.

2. The combined and visual groups, both of which had had specific visual perception training, made significant gains on the visual test in November. The auditory and control groups showed little change in this skill.

a. The mean score for the combined group in November was 35.38 compared to 30.22 for the control group. When the difference between the means of the September and November tests was found, and the standard error computed, the critical ratio was 2.25. The chances are 97 out of a hundred that this is a true difference.

b. The mean score for the visual group was 34.35 compared with 30.22 for the control group. The critical ratio being 3.22 showed this difference to be statistically significant.

c. The mean score for the auditory group was 33.22 compared with 30.22 for the control group. The critical ratio in the September test for these two groups was 2.00, and in November 2.38.

3. The combined and visual groups made significant gains on the Lee-Clark Test in November. The auditory and control groups showed little change. This test is a measure of visual perception.

a. The mean score for the combined group was 42.40, compared to 36.80 for the control group. The combined group made its largest gain in the highest scores.

b. The mean score for the visual group was 44.10 compared to 36.80 for the control group. This difference was statistically significant.

values being 5.94, 5.10 and 5.92 showed all these differences to be statistically significant.

2. The combined and visual groups, both of which had the specific visual perception training, made significant gains in the visual test in November. The auditory and control groups showed little change in this skill.

a. The mean score for the combined group in November was 58.58 compared to 50.12 for the control group. When the difference between the means of the September and November means was tested, and the standard error computed, the critical value was 2.55. The observed t was 17.07 and it is concluded that this is a true difference.

b. The mean score for the visual group was 59.18 compared with 50.12 for the control group. The critical value being 2.55 showed this difference to be statistically significant.

a. The mean score for the auditory group was 51.52 compared with 50.12 for the control group. The critical value is 2.55. September test for these two groups was 5.00, and in November 5.50.

3. The combined and visual groups made significant gains in the last-look test in November. The auditory and control groups showed little change. This test is a measure of visual perception.

a. The mean score for the combined group was 52.40, compared to 50.50 for the control group. The combined group made the largest gain in the highest score.

b. The mean score for the visual group was 54.10 compared to 50.50 for the control group. This difference was statistically significant.

c. The mean score for the auditory group was 40.45, compared to 36.80 for the control group. The critical ratio for these groups in September was 2.31, and in November 2.22.

4. No group made a significant gain on the auditory test in November.

C. Sex differences

1. It appears that sex differences in reading achievement disappear when specific training for auditory and visual discrimination is given in beginning reading.

a. The girls of the control group were superior to the boys in reading achievement in November, February and June. The mean score for the girls in November was 3.01 words compared to 1.36 words for the boys; In February 75.20 words compared to 47.00 words; and in June 17.68 compared to 11.68 words. The critical ratios being 11.00, 4.36, and 5.12 showed all those differences to be statistically significant.

b. There was no significant difference between the girls and boys in any of the experimental groups.

D. Adjusting instruction on the basis of Specific Needs

1. The effectiveness of the exercises for developing auditory and visual perception was in relation to the need. Low groups given special training showed much more increase in reading achievement over matched children in the control group than did children whose auditory and visual test scores were medium or high.

2. The mean scores for the auditory group were

40.42, compared to 38.83 for the control group. The critical ratio for these

groups in November was 1.41, and in November 2.28.

3. The group with a significant gain in the auditory test

in November.

B. Sex differences

1. It appears that sex differences in reading achievement

disappear when specific training for auditory and visual discrimination is

given in beginning reading.

2. The girls of the control group were superior

to the boys in reading achievement in November, February and June. The mean

scores for the girls in November and 4.01 words compared to 3.58 words for the

boys; in February 76.53 words compared to 67.00 words; and in June 17.58

words compared to 11.58 words. The critical ratios being 11.00, 6.58, and 5.12

showed all these differences to be statistically significant.

3. There was no significant difference between

the girls and boys in any of the experimental groups.

C. Adjusting instruction on the basis of specific needs

1. The effectiveness of the exercises for developing

auditory and visual perception was in relation to the needs. Two groups (even

special training should have interest in reading achievement test

assigned children in the control group than did children whose auditory and

visual test scores were median or high.

a. The mean score for the low auditory group on the Detroit reading test in June was 21.61 words, compared to 10.99 words for the low control group. The critical ratio being 4.82 showed this difference to be statistically significant.

b. The mean score for the medium auditory group was 19.60 words compared to 14.56 words for the medium control group. The chances are 95 out of a hundred that this is a true difference.

c. The mean score for the high auditory group was 17.98 words compared to 17.82 words for the high control group.

d. The mean score for the low visual group was 15.28 words compared to 9.88 words for the low control group. The chances are 98 out of a hundred that this is a true difference.

e. The mean score for the medium visual group was 19.60 words compared to 14.44 words for the medium control group. The chances are 98 out of a hundred that this is a true difference.

f. The mean score for the high visual group was 22.72, compared with 19.24 words for the high control group. The chances are 88 out of a hundred that this is a true difference.

E. Predictive values of the various preliminary tests.

1. The correlations between the various preliminary tests and reading achievement in June were all positive and relatively low, too low to be of value in predicting probable success in beginning reading.

a. The mean score for the low auditory group

on the Durrell reading test in June was 11.61 words, compared to 10.36 words for

for the low control group. The critical ratio being 4.82 shows this differ-

ence to be statistically significant.

b. The mean score for the medium auditory

group was 10.60 words compared to 11.61 words for the medium control group.

The difference was 55 out of a hundred that this is a true difference.

c. The mean score for the high auditory group

was 17.98 words compared to 14.55 words for the high control group.

d. The mean score for the low visual group

was 15.58 words compared to 15.58 words for the low control group. The

difference was 55 out of a hundred that this is a true difference.

e. The mean score for the medium visual group

was 10.60 words compared to 11.61 words for the medium control group. The

difference was 55 out of a hundred that this is a true difference.

f. The mean score for the high visual group

was 22.72, compared with 19.54 words for the high control group. The difference

was 55 out of a hundred that this is a true difference.

3. Predictive value of the various preliminary tests.

i. The correlation between the various preliminary

tests and reading achievement in June were all positive and relatively low,

and low to be of value in predicting probable success in beginning reading.

CHAPTER VI

SUGGESTIONS FOR FURTHER RESEARCH

I Problems suggested from analysis of the data in this study:

1. To study the growth of auditory discrimination during the whole first year of school.
2. To study sex differences resulting from specific auditory and visual training on a larger population.
3. To study the effect of auditory and visual training on individual differences on a larger population.

II Problems suggested during the testing program:

1. To study the effect of length of sentences and length of paragraphs on reading ability.
2. To study effect of teaching individual words and presenting new words in phrases.
3. To study the relative difficulty of capital and small letters.

CHAPTER VI

EXPERIMENTAL RESEARCH

I. Problems suggested from analysis of the data in this study:

1. To study the growth of auditory discrimination during the whole first year of school.
2. To study any differences existing between specific auditory and visual training on a larger population.
3. To study the effect of auditory and visual training on individual differences on a larger population.

II. Problems suggested during the testing program:

1. To study the effect of length of sentences and length of paragraphs on reading ability.
2. To study effect of teaching individual words and phrases on words in phrases.
3. To study the relative efficiency of capital and small letters.

TEACHING MATERIALS

These materials are planned to develop the ability to hear similarities and differences in the sound of words in children who are beginning to learn to read. All the words in the exercises are included in the International Kindergarten Union Vocabulary. Most of the material is placed on the auditory and oral side, but the visual is included where it seemed appropriate. All the consonants are included except q, x, and z, which are rather difficult and not necessary at this stage. Some practice is given in all the short vowels in the spelling exercises. The most common blends are included after the consonants have been taught singly. Each exercise is planned for approximately ten minutes. The story of all the words is not completed, rather it is hoped that the child may become familiar with the words and be able to read them.

APPENDIX A

TEACHING MATERIALS

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TEACHER'S MANUAL

These exercises are planned to develop the ability to hear similarities and differences in the sound of words in children who are beginning to learn to read. All the words in the exercises are included in The International Kindergarten Union Vocabulary. Most of the emphasis is placed on the auditory and oral sides, but the visual is included where it seemed advisable. All the consonants are included except q, x, and z, which are rather difficult and not necessary at this stage. Some practice is given in all the short vowels in the rhyming exercises. The most common blends are included after the consonants have been taught singly. Each exercise is planned for approximately ten minutes. Complete mastery of all the sounds is not expected, rather it is hoped that the child may become familiar with the various sounds and be able to discriminate between them when he hears them in words, and that he may notice similarities and differences in the sounds of words.

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TEACHING'S METHOD

These exercises are planned to develop the ability to hear-sound-differences and differences in the sound of words in English and are intended to lead to reading. All the words in the exercises are included in the International Phonetic Union Vocabulary. Each of the exercises is planned on the basis of a story and also, but the visual is included only in sound exercises. All the exercises are included except 1, 2, and 3, which are rather difficult and not necessary at this stage. Each exercise is given in all the above words in the reading exercises. The most common words are included after the exercises have been taught easily. Each exercise is planned for approximately ten minutes. Complete mastery of all the words is not expected, rather it is hoped that the child may become familiar with the words and be able to discriminate between them when he hears them in words, and that he may make similarities and differences in the sounds of words.

REVISED 1944
MRS. A. E. ELLIS

FIRST DAY

LISTENING FOR SIMILAR SOUNDS AT THE BEGINNING OF WORDS

Caution: In dictating the lists be careful not to indicate the correct word by dropping your voice. Watch each child's reaction.

"I'm going to say some words that begin with "s" (sound) like seven.

Listen and see if you can hear the sound."

Dictate:

"said, see, sent, set, say, sand, sister"

"Did you hear "s" (sound) at the beginning of each word? Now I'll say some words that begin with "r" (sound) like room."

Dictate:

"rabbit, room, robin, rolls, run. Did you hear "r" in all the words?"

"Now we'll play a game. Close your eyes and listen. I'll say some words that begin with "f" like for. When you hear a word that doesn't begin like "for" clap your hands."

Dictate:

"face, fairy, fall, family, farm, fat, father, play, far, fast"

Watch carefully to see which children get the difference first, and which ones just follow the leader.

"Ready, listen,

first, finger, fish, first, fit, fix, far, feed, find, now, finish, fold, food"

"Listen now for words that begin with "g" (sound) like girl. Keep your eyes closed tightly. If you hear a word that doesn't begin with "g", clap your hands."

First Day

LISTENING FOR INITIAL SOUNDS AT THE BEGINNING OF WORDS

Teacher: In listening the first is careful not to indicate the correct word by changing your voice. Have each child's hand on his chin.

"I'm going to say some words that begin with 'r'. (Sound) like 'room'."

Class: and now if you can hear the sound.

Teacher:

"said, see, sent, set, same, sister."

"Do you hear 'r' (sound) at the beginning of each word? Now I'll say some words that begin with 'r' (sound) like 'room'."

Class:

"rabbit, room, rabbit, tell, see. Do you hear 'r' in all the words?"

Teacher: "Now we'll play a game. Close your eyes and listen. I'll say some words that begin with 'r' like 'room'. When you hear a word that doesn't begin like 'room' say 'no'."

Teacher:

"Tree, lady, tall, family, foot, fat, father, pig, rat, tree."

Teacher: "Each child has a card which children say the different words, and when they hear the teacher."

Teacher: "Ready, listen."

Class: "Tree, tiger, fish, tree, tree, tree, tree, tree, tree, tree."

Teacher: "Listen now for words that begin with 'r' (sound) like 'room'. Keep your eyes closed tightly. If you hear a word that doesn't begin with 'r', say 'no'."

"Ready: gloves, go, gold, got, grass, gets, garden, gift, girl, glass, gum, goods, going, mother, golf, gallop."

"Ready. Listen for words with "g" again".

Dictate:

"gas, gallop, gasoline, give, glad, goes, Goldilocks, gone, guess, game, great, give, glad, goes, right, goose, gate."

"Be sure to keep your eyes closed. Listen carefully. This time I'll say some words that begin with "m" like Mary. When you hear a word that doesn't begin with "m", stand. Ready, listen."

Dictate:

"man, made, mail, make, me, meadow, mother, mouse, movies, music, orange, my, mark, market"

"Listen for words with "m" again."

Dictate:

"minute, mamma, many, march, may, meat, mind, Monday, monkey, morning, most, put, matter, mean, mistake"

"This time I'll say some words that begin with "h" (sound) like hat. If you hear a word that doesn't begin with "h" (sound), stand. Listen carefully and see who will be the first one to hear a word that doesn't start with "h".

Dictate:

"had, hail, hand, handkerchief, have, heavy, help, his, horse, hungry, hurry, hold, hot, hammer, hair, boy, head, heel"

"Listen for words that begin with "h" (sound) again. Remember when you hear a word that doesn't start with "h", stand. Close your eyes everyone and listen."

"Ready: please, go, hold, get, guess, give, guess, give, guess."

Now, ready, guess, hold, hold, hold."

"Ready: listen for words with 'e' again."

Listen:

"can, called, guesses, give, give, guess, guesses, guess, guess."

can, guess, give, give, guess, guess, guess, guess."

"Be sure to keep your eyes closed. Listen carefully. This time I'll

say some words that begin with 'e' like before. Now you hear a word that

doesn't begin with 'e', stand. Ready, listen."

Listen:

"can, made, nail, said, see, whether, when, when, when, when."

stand, up, wait, wait."

"Listen for words with 'e' again."

Listen:

"can, can, can, can, can, can, can, can, can, can."

can, can, can, can, can, can, can, can, can, can."

"This time I'll say some words that begin with 'e' (stand) like before."

If you hear a word that doesn't begin with 'e' (stand), stand. Listen

carefully and see who will be the first one to hear a word that doesn't

start with 'e'."

Listen:

"can, nail, when, whether, when, when, when, when, when, when."

can, can, can, can, can, can, can, can, can, can."

"Listen for words that begin with 'e' (stand) again. Remember when you

hear a word that doesn't start with 'e', stand. Listen your eyes closed

and listen."

Dictate:

"half, hard, hatchet, horn, house, hurrah, hill, home, hose, hope, hunt, hit, sing, hello, him, herself"

SECOND DAY

LISTENING FOR "f" AS BEGINNING SOUND

"I want you to listen to some words."

Say:

"for, feet, fix, fit." Write the words on the board as you say them.

"These words all begin alike with "f" (sound) "f" (name). I'll say some names that begin with "f" and you say them after me. I want to hear "f" (sound) in each word."

Dictate these words emphasizing the first sound and have the children repeat each name after you.

"Fred, Francis, Frank, Florence"

"Now let's say some numbers that begin with "f" (sound). You listen carefully and say them after me."

Dictate these numbers and have the children repeat them:

"four, five, fourteen, fifteen, forty, fifty"

"Do you know what riddles are? I'll tell you something about the word and you try to guess the answer."

"Here are some fiddles. The answers are all words that begin with "f".

Give just the "f" (sound) to indicate the beginning of the word.

"Tell me something that grows on trees and is good to eat. f ruit

Tell me something you eat with. f ork

Tell me something birds can do. f ly

Tell me the name of an automobile. F ord

Tell me a game boys like to play. f ootball

Tell me something pretty that grows in a garden. f lowers

Tell me what we eat. f ood

Tell me what the farmer has to keep his cows in the field. f ence

Tell me something that swims. f ish

Tell me someone who has a farm. f armer

Tell me how fire engines go to a fire. f ast

Tell me what pillows are made of. f eathers"

"Does anyone's name begin with "F"?"

If you have a child whose name begins with "F" and he does not recognize it, try to have someone else get it. If no one in the group can tell, you tell the child. Say his name and have him say it after you.

"See if you can tell me the name of a day of the week." F riday

"I'll say some words and you say the first sound".

Dictate:

"finish, fireman, fit, feeding, few, fern"

"All these words begin with "f", (sound). Listen when we are out doors today and see if you hear anyone say any word that begins with "f", (sound) and tell me after recess the words you heard."

"How many words can you say that begin with "f" (sound)?"

Give individuals turns with the other children listening to check them.

Caution: Watch carefully for errors. If the children do not give correct words, dictate some of the previous lists again--as the names or numbers--and have the children give the beginning sound of these words. Do not allow the children to give incorrect words.

Tell me the name of an automobile. I say

Tell me a good story like the story I say.

Tell me something pretty that grows in a garden. I say

Tell me what we eat. I say

Tell me what the farmer has to keep his cows in the field. I say

Tell me something that grows. I say

Tell me something you use a fork. I say

Tell me how five fingers go on a hand. I say

Tell me what pillows are made of. I say

"Best response's name begin with P?"

If you have a child whose name begins with "P" and he does not recognize

it, try to have someone else get it. If no one in the group can tell, you

will the child. Say his name and have him say it after you.

"Can it you can tell me the name of a day of the week." I say

"I'll say some words and you say the first sound."

Teacher:

"Piano, piano, tea, tea"

"All those words begin with 'P'." (sound). Listen when we say our words

today and see if you hear anyone say any word that begins with 'P'." (sound)

and tell me after recess the words you heard."

"How many words can you say that begin with 'P'." (sound)

Give individual cards with the other children listening to check them.

Teacher: Watch carefully for errors. If the children do not give

correct words, discuss some of the previous lists again--on the same or

another--and have the children give the beginning sound of those words. Do

not allow the children to give incorrect words.

THIRD DAY

LISTENING FOR "b" AT THE BEGINNING OF WORDS

"Listen to some words." Say,

"be, bag, bit" - and write the words on the board as you say them.

"These words all begin with "b" (sound), "b" (name). I'll say the names of some things to eat that begin with "b" (sound). You say them after me. I want to hear the first sound every time."

Dictate slowly, having the children say each word after you:

"bacon, banana, beans, beef, beets, berries, biscuits, blackberries, burns"

"These are the names of toys that begin with "b" (sound). Say them after me."

Dictate:

"ball, balloon, baseball, bat, blocks, boats"

"These are the names of people that begin with "b" (sound). Say them after me."

Dictate:

"baker, blacksmith, bookkeeper, boys, butcher"

"These are the names of things that fly that begin with "b". Say them after me." Dictate with the children repeating each word after you:

"birds, bluebirds, bluejays, bumble bees, butterflies"

"What was the first sound in each of these words?"

"These are the names of animals that begin with "b" (sound). Say them after me." Dictate:

"bears, billygoats, buffalos, bulldogs, bunnies"

THESE ARE

LISTENING TO THE VOICES OF NATURE

"Listen to some words." Say,

"No, but, bid" - and write the words on the board as you say them.

"These words all begin with 'b' (sound)." "b" (name). "I'll say the names

of some things to see that begin with 'b' (sound). For say them after me.

I want to hear the first sound every time."

Repeat slowly, having the children say each word after you:

"barn, banana, beam, boat, better, bicycle, blanket,

bat."

"These are the names of boys that begin with 'b' (sound). Say them

after me."

Repeat:

"ball, baller, baseball, bat, blanket, barn."

"These are the names of people that begin with 'b' (sound). Say them

after me."

Repeat:

"baker, blackbird, bookkeeper, boy, better."

"These are the names of things that begin with 'b' (sound). Say them

after me." Repeat with the children repeating each word after you:

"bird, blackbird, bicycle, beetle, bat, butterfly."

"These are the first sounds in each of these words."

"These are the names of animals that begin with 'b' (sound). Say them

after me." Repeat:

"bear, butterfly, beetle, bird, bat."

"Let's play a game with words that begin with "b" (sound)."

Have the letter "b" on the board one less time than the number of children playing the game. Have the children stand opposite the board where the letters are. When the teacher says "go", the children can run and stand in front of a letter as soon as they can think of a word that begins with "b". The child who fails to get a place is "IT". Each child gives his word and if it doesn't begin with "b", he must be "IT". When each child has given his word, all the children go back where they started from to wait the teacher's signal to go again. Each time the child must have a different word that begins with "b" before he can take a place at the board.

FOURTH DAY

LISTENING FOR "h" AT THE BEGINNING OF WORDS

"I want you to listen to some words." Dictate:

"had, have, hand", and write the words on the board.

"These words all begin with "h" (sound). I'll say some words that begin with "h" (sound) and you say them after me. These are some things you can do that begin with "h" (sound). Listen and say them after me." Dictate:

"hear, hammer, help, hide, hit, hold, hunt"

"What is the first sound in all these words?"

"Here are the names of some things you all have that begin with "h", (sound). Listen and say them after me." Dictate slowly with the children repeating each word:

"hair, hands, handkerchief, hat, head, heart, heels, home"

"What is the first sound in all these words?"

"Let's give a name with words that begin with 'b' (sound)."

Now we have 'b' as the first letter. Let's give the children a picture. Now the children stand opposite the board where the picture is. When the teacher says 'b', the children say 'b' and point to the picture of a basket as soon as they see which of a word they begin with 'b'. The child who fails to get a picture is 'b'. Now each child has and it is teacher's turn to say 'b'. As soon as 'b', each child has given his word. All the children go back where they started from to wait the teacher's signal to go again. Each time the child must have a different word that begins with 'b' before he can take a picture of the word.

THE END

LETTERING THE 'b' IN THE BEGINNING OF WORDS

"I want you to listen to some words." (Sound)

"bat, ball, bag, boy, bird, bee, boat, book, box, boy, ball, bat."

"These words all begin with 'b' (sound). I'll say some words that begin

with 'b' (sound) and you say them after me. These are some things you can

do with 'b' (sound). Listen and say them after me." (Sound)

"bat, ball, bag, boy, bird, bee, boat, book, box, boy, ball, bat."

"This is the first sound in all these words."

"Now are the names of some things you all know that begin with 'b'."

(Sound). Listen and say them after me." (Sound) (Sound) (Sound)

repeating each word:

"bat, ball, bag, boy, bird, bee, boat, book, box, boy, ball, bat."

"This is the first sound in all these words."

"Here are some names that begin with 'H' (sound). Listen and say them after me. I want to hear the first sound every time. Listen." Dictate:

"Helen, Henry, Harry, Hazel"

"Let's see if each of you can think of a word that begins with 'h'."

Caution: Watch carefully for any child who gives a word which does not begin with "h".

"Finish these sentences for me." Give just the "h" sound in the last word. Have the children complete the words.

"When you cut an apple in two parts each part is a h alf."

Witches are out on H alloween."

We wear hats on our h eads."

Boy Blue was asleep under the h aystack."

When you meet a friend you say H ello."

Bees go to the flowers for h oney."

If you are late you must h urry."

You hang your coat on a h ook."

Rabbits can run and h op."

Little Boy Blue blew his h orn."

Peter Rabbit ran away from h ome."

Game: Have a picture of a bunch of balloons with an "h" on each balloon--on the board. The teacher sells the balloons. Each child who can say a word that begins with "h" can have a balloon. Let the child select the balloon he wants, and the teacher writes the word he says in the balloon, and the child's name under the balloon. Try to have every child get at least one balloon.

FIFTH DAY

REVIEW OF "f", "b", "h", AS BEGINNING SOUNDS

Put these letters on the board--"f", "b", "h".

"We'll play a game today with all these letters we have learned. I'll say some words that begin with these letters and you give the first sound you hear." Dictate and have the children say the word after you and then give the first sound:

"balloons, band, between, hair, hands, face, fairies, family, father, bumblebee, hello, high, hills, fighting, first, finish"

(Watch individuals to be sure each one gives correct sound)

Game for drill: Select two children to be "IT" and dictate these words:

"baby, big, hat, forget, found, funny, hair, hen, blue, bite". The children who are "IT" try to find the letter on the board that is the first sound they hear in the word and say the sound. The one who gets it first, gets one point. Keep the score for the ten words. If a child finds the wrong letter, any child who sees the error can be "IT". Select two more children for this group of ten words:

"finger, fight, hot, how, hits, banana, baker, blackberry, fairy, heel." Select two children for this group of ten words:

"hill, herself, him, first, fish, fast, ball, basket, barn, bean."

Select two other children for this list:

"burn, busy, Friday, fox, for, follow, has, hang, her, baby."

EXERCISE

Exercise 1. "It" and "That" as Relative Pronouns

The first sentence is the model--"It" and "That".

"It" is used to refer to a person or thing mentioned before.

For example: "That man who is sitting over there is my brother." "It" is used to refer to a thing mentioned before.

For example: "That book is very interesting."

Exercise 2. "Who" and "Which" as Relative Pronouns

"Who" is used to refer to a person mentioned before.

For example: "The man who is sitting over there is my brother."

Exercise 3. "Whom" and "Whose" as Relative Pronouns

"Whom" is used to refer to a person mentioned before.

For example: "The man whom I met yesterday is my brother."

"Whose" is used to refer to a person mentioned before.

For example: "The man whose car is over there is my brother."

Exercise 4. "Where" and "When" as Relative Pronouns

"Where" is used to refer to a place mentioned before.

For example: "The house where I was born is very beautiful."

"When" is used to refer to a time mentioned before.

For example: "The day when I was born was very happy."

Exercise 5. "How" and "Why" as Relative Pronouns

"How" is used to refer to a manner mentioned before.

SIXTH DAY

LISTENING FOR "g" AND "o" AS BEGINNING SOUNDS

"Today we are going to listen for words that begin like go, give, get."
Write the words on the board as you say them. "These words all begin with
"g" (sound). Here are some names that begin with "G". Listen and say them
after me."

Dictate:

"Gertrude, Grace, Grandma, Goldilocks"--Have the children repeat
the words after you.

"What is the first sound in all these words? Here are some things to
eat that begin with "g". Dictate:

"Grapes, grapefruit, gravy"

"I'll ask you some questions. The answers to these questions all begin
with "g". See how many you can answer."

"How does a horse go when he goes fast? gallop"

What do we keep an automobile in? garage

Where does the farmer grow his vegetables? garden

What do we need to make automobiles go? gasoline

What are windows made of? glass

What do you have to keep your hands warm? gloves

What animal has horns and can butt? goat

Who was the little girl who went to the Three Bears' House? Goldilocks

"These words all begin alike." Dictate:

"can, call, cap"

and write them on the board. They all begin with "c" (sound). Listen to

these words. They are the names of things to eat and all begin with "c".
 (sound). Say them after me." Dictate slowly emphasizing the first sound.
 The children repeat each word:

"cabbage, cake, candy, carrots, coconut, cookies, corn, crackers,
 cranberries"

"What is the first sound in all these words? I'll say the names of
 some animals that begin with "c" (sound). You say them after me." Dictate:

"calf, camel, cat, cow"

"Here are the names of some people that begin with "c" (sound)." Dictate:

"captain, cardinal, carpenter, catcher, clown, conductor, cowboy"

"Here are some words that are the names of things we may find in a
 house. They all begin with "c" (sound). Say them after me." Dictate:

"cabinet, candles, carpet, clock, closet, clothespins, couch,
 cradle, cupboard, curtains"

"Let's see if you can each tell me one word that begins with "c" (sound)
 like go and one word that begins with "c" (sound) like cat."

Caution:

"If there are very many errors, return to the lists and have the child-
 ren repeat them after you again rather than allowing them to develop a con-
 fusion."

SEVENTH DAY

LISTENING FOR "l" AND "m" AS BEGINNING SOUNDS

"Listen to these words". Dictate and write on the board:

"look, let, lot"

"These words all begin with "l" (sound) (name)."

"Here are some things that grow that begin with 'l' (sound). Listen and say them after me." Dictate:

"lawns, lemons, lettuce, lilacs, lilies, leaves"

"The first sound in all these words is 'l' (sound). Here are some things you can do that begin with the same sound. Say them after me."

Dictate:

"laugh, learn, lift, listen, look"

"What is the first sound in all these words?"

"Tell me things that begin with 'l' that will finish these sentences."

--Just give the first sound in the answers as a lead to the children.--

"The mailman brings letters."

A baby sheep is called a lamb.

The boys had a boat on the lake.

Happy people laugh.

Shoes are made of leather.

We can get books at the library.

Bread is made into loaves.

At recess the children ate lunch."

"Listen to some words that begin with another sound." Dictate and write on the board:

"me, my, may"

"All these words begin alike with 'm' (sound) 'm' (name). Here are some names that begin with 'M'. Listen and say them after me." Dictate:

"Mary, May, Michael, Marie, Martha, Mildred, Martin"

"What is the first sound in all these names? Here are some things you can do that begin with 'm' (sound), too."

"Listen and say the words after me. I want to hear 'n' in every word."

Dictate:

"march, mark, match, measure, mind, move"

"Tell me the first sound in all these words."

"Let's see how many words we can say that begin like me, my and may."

Point to these words on the board. Let each child have a turn to say words that begin with "n".

"Now see how many words you can think of that begin like--look, lot and let." Point to the words on the board. Let each child have a turn and watch for any errors.

EIGHTH DAY

REVIEW OF "g", "c", "l", AND "n" AS BEGINNING SOUNDS.

Put the letters on the board.

"Today we shall work with the new letters we have learned this week. I'll say some words beginning with each of these letters and you say the word after me and then tell me the first sound in the word. Listen carefully." Dictate:

"grapefruit, goose, good-by, six, most, caterpillar, carrying,

carrots, lid, lift, lunch, lovely, gate, carriage, low, middle"

Be sure each child says every word and every beginning sound.

"Now we'll play a game with these words. Each of you will take turns. I'll say a word and you tell me one that begins with the same sound. If you give a correct word, it will count a point. We'll see who gets the most words." Dictate slowly and allow each child time to think of a word beginning with a similar consonant. Keep a record for each child on the

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board.

"gold, canary, late, mind, mistake, lot, coconut, golf, cock-a-doodle-doo, get, laundry, monkey, morning, loud, collar, grab"

If any one sound is troubling, give extra practice. These words are suggestions for these sounds:

"carry, camp, camels, can, garden, gate, getting, girl, giving, lion, lily, like, listen, long, march, matches, measles, medicine, melted."

Caution:

Do not try to hurry too fast. Be sure the child has a fair chance for a turn before giving someone else the turn. If a child gives a word beginning with a wrong sound, let any child who notices it have the turn to give a correct one.

NINTH DAY

REVIEW FOR "f", "b", "h", "g", "c", "l", "m", AS BEGINNING SOUNDS

Have seven of each of these letters (49 letters in all) on the board all mixed together.

"Today we are going to play with all the letters we have been working with. First I'll say some words and I want you to say the word after me."

Dictate:

"music, grasshopper, candy, cane, ladder, far, fed, happy, hard, bacon, bag."

"This time say the word after me; then tell me the sound the word begins with." Repeat the list.

"Now I'll say some words, and if you can find the first letter on the board you may draw a circle around it." Try to get every child to take an

active part. Watch carefully for any errors or confusions that individuals may have. Dictate:

"fancy, bathtub, handle, growing, cocoa, letter, Monday, lemon, lesson, class, captain, Goldilocks, gift, half, hang, build, burn, face, few, bucket, hello, garage, clock, long, marbles, loaves, line, clap, coal, galloping, gas, hatchet, honey, buss, bump, fellow, fish, broken, bunny, fasten, hall, Halloween, glass, girls, corn, count"

Caution:

Do not dictate the words too fast and do not allow a few children to find all the letters. Have every child take part in the game.

TENTH DAY

LISTENING FOR "f", "b", "g", "l", "n", AS FINAL SOUNDS

Have these letters on the board.

"We know these letters when they are at the beginning of a word. Listen, when I say a word you tell me the first sound." Dictate:

"for, boy, girl, little, me"

Have the children give only the first sound. Repeat the list calling on individuals for the beginning sound.

"Today we are going to listen for the last sound in some words. All the words will end with one of these sounds. Listen and see if you can hear "f" (sound) at the end of these words. Say the words after me." Dictate slowly, emphasizing the last sound:

"beef, chief, half, if, knife, leaf, loaf, off, scarf, self, shelf"

"What was the last sound in each word?"

"Now I'll say some words that end in "b" (sound). Be sure to say the "b" so that I can hear you." Dictate:

"bib, bulb, cab, club, crab, grab, job, knob, rub"

"What was the last sound in all these words?"

"Now we'll say some words that end in "g" (sound). Listen carefully and say them after me." Dictate slowly, emphasizing the final "g":

"bag, beg, big, bug, dig, dog, egg, flag, frog, jig, leg, log, peg, pig, rag". "What did all these words end in?"

"Now we'll say some words that end in "l" (sound). Listen and say the words after me." Dictate and have the children repeat the words:

"all, ball, barrel, bell, bicycle, bottle, bowl, call, camel, hill, mail, nickel, pail, pencil". "What was the last sound in all these words?"

"Now we'll say some words that end in "m" (sound). Listen and say these words after me." Dictate and have the class repeat each word. Be sure to emphasize the final "m" in dictating the list:

"arm, bloom, bottom, broom, came, cream, dream, drum, farm, from, gun, hem, plum, room, seem, stem, team, warm".

"What was the last sound in all these words?"

"Let's play a game. All stand up and I'll say some words and you say the last sound. If you say the wrong sound, you must sit down. We'll see who can stand up the longest. Remember you will just say the last sound."

--Watch individual responses. Be sure each child sits down if he misses.--
Dictate:

"hem, if, cab, log, crab, nickel, worm, well, tug, tub, till, gum, bulb, bloom, egg"

Let all the children stand again and play again using words listed here.

ELEVENTH DAY

LISTENING FOR "d" AND "j" AS BEGINNING SOUNDS

"I'm going to say some words that begin alike. Listen." Dictate and write these words on the board as you say them:

"do, day, dog".

"All these words begin with "d" (sound) d (name). Say them with me." Repeat the three words again. "Here are some more words that begin with "d" (sound). Listen and say them after me. These are all things to do. Be sure to say the first sound so I can hear it." Dictate these words slowly emphasizing the first sound:

"dance, decorate, dig, digging, draw, dream, drill, drink, drive dust. What is the first sound in all the words?"

"Here are the names of some things that are good to eat that begin with "d" (sound). Listen and say them after me." Dictate:

"dandelions, dates, doughnuts".

"Now we'll say the names of some things that most boys and girls like. Listen first and say the word after me. All of these words begin with "d" (sound)." Dictate:

"desk, dinner, dogs, drums, dolls."

"All these words are names of people that begin with "d" (sound). Say them after me. Let me hear "d" (sound) at the beginning of each word."

Dictate:

"daddy, dentist, doctor"

"These are names of animals that begin with "d". Say them after me."

Dictate: "deer, dogs, donkey, ducks".

See if you can think of some words that begin with "d". I'll ask some questions that you can answer with words that begin with "d".

What month does Christmas come in? December

What do you call a ten cent piece? dime

What do we have to eat dinner from? dishes

How do you come into the house? door

What is the name for 12 eggs? dozen

"Does anyone's name begin with "d" (sound)? So you know any boy or girl whose name begins with "D" (sound)?" If you have a child in the group whose name begins with "d" and he doesn't recognize it, tell him. Say his name and have him repeat it.

"Now I'll say some words that begin with a different sound. Listen." Dictate, and write these words on the board:

"Jack, Jay, jump"

"These words begin alike. They all start with "j" (sound) "j" (name). Listen to some more words that begin with "j". These are peoples' names that begin with "J" (sound). Have the children repeat each word as you say it. Dictate:

"John, Joe, Joseph, Julia, Jack, Josephine"

"What is the first sound in these words?"

"These are the names of things to eat that begin with "j". Say them after me." Dictate:

"jello, jelly, jam"

"These words begin alike. Say them after me. Let me hear the "j" in each word." Dictate:

"jump, jumped, jumping, jumps"

"The names of three months of the year begin with "J" (sound). Say them after me." Dictate:

"January, June, July"

"Do you know what Mother Goose people went up to the hill? Jack and Jill

What is the name of the first month of the year? January

Who takes care of our school building? janitor

What do we use pumpkins for Halloween? jack-o-lanterns

What does mother keep jelly in? jar "

"Let's see if each of you can tell me one word that begins with "j" like jelly."

Watch for any errors or confusions which individual children may have. If it seems necessary, have the child repeat after you again the lists provided in this lesson.

TWELFTH DAY

LISTENING FOR "k" AND "n" AS BEGINNING SOUNDS

"Listen for the first sound in these words."

Dictate and write on the board:

"no, not, now"

"These words begin with "n" (sound). Say them with me, and be sure to say the first sound so I can hear it." Repeat the three words.

"Here are some numbers that begin with "n" (sound). Listen! Say them after me." Dictate:

"nine, nineteen"

"These are some things you have that begin with "n" (sound). Listen for "n" (sound) at the beginning of each word. Say the words after me." Dictate:

"The name of these words is 'the' (sound). Say

them after me." (Teacher)

"The name of these words is 'the' (sound). Say

"the" (sound). Say the words after me. (Teacher)

"What is the name of the first word of the word 'the'?

The name of the first word of the word 'the' is 'the'.

"What is the name of the first word of the word 'the'?

"The name of the first word of the word 'the' is 'the'.

"Let's see if you can tell me the word that begins with 't'.

"The word 'the' begins with 't'.

Watch for any errors or omissions which indicate children are not.

It is more necessary, have the child repeat after you again the first word.

ended in this lesson.

THE FIRST WORD

LISTENING FOR "t" AND "th" AS BEGINNING SOUNDS

"Listen for the first sound in these words."

Teacher and write on the board:

"no, not, now"

"These words begin with 'n' (sound). Say them with me, and be sure to

say the first sound as I say it." Repeat the three words.

"There are some words that begin with 't' (sound). Listen for them

after me." (Teacher)

"nine, eleven"

"There are some words that begin with 'th' (sound). Listen for

"th" (sound) at the beginning of each word. Say the words after me." (Teacher)

"name, neck, neighbors, nose, napkins"

"What is the first sound in each of these words?"

"I'll tell you some stories and every time you hear a word that begins with 'n' (sound) clap your hands and tell me the word. Listen and be sure you get every word that begins with 'n' (sound). Clap your hands as soon as you hear it."

In reading these sentences, emphasize the underlined words:

"The carpenter needs nails."

Thanksgiving comes in November.

The birds are building new nests.

The naughty boy nearly lost his necktie.

Mother needs a needle.

Neither boy can read the newspaper.

May I have a nickel?

The people in the next house are our neighbors.

Nobody made any noise."

"These words begin with a different sound. Listen!" Dictate:

"Kiss, kid, kite"--writing these words on the board as you say them.

"All these words begin with 'k'. Say them with me." Repeat the three words and point to them on the board.

"Here are some names of things children like that begin with 'k'. Say them after me." Dictate:

"kiddie car, kindergarten, kites, kittens"

"All these words begin with what sound?"

"These are the names of some things you can do that begin with 'k'(sound).

"When words, sentences, words, sentences"

"What is the first word in each of these words?"

"I'll tell you how to find out every time you have a word that begins

with 'r' (which) they are words and tell me the words. Listen and be sure you

get every word that begins with 'r' (which). Clap your hands as soon as you

hear 'r'.

In reading these sentences, explain the underlined words:

"The earliest words are early."

Technical words in English.

The birds are building new nests.

The earliest boy early lost his possession.

Robert made a noise.

Robert got out the program.

My I have a light!

The people in the new house are very delicious.

Nobody made any noise.

"These words begin with a different sound. Listen! Listen!"

"Listen, this, this" - saying these words on the hand on the left

"All these words begin with 'r'. Say them with me." Repeat the three

words and point to them on the hand.

There are some words to which I'll give this that begin with 'r'. Say

them after me." Listen

"Listen now, listen now, listen, listen"

"All these words begin with 'r'."

"These are the names of some things. See how they begin with 'r' (which).

Listen." Dictate:

"kick, kiss, keep".

"The answers to these questions begin with "k". See if you can tell me all the answers."

"What room does mother cook in? kitchen

What does mother boil water in? kettle

What do you call baby goats? Kids

What is a baby cat called? kitten

What can boys fly? kites

What do we use to unlock a door? Key

What do you do with a football? kick"

"Can you tell me any word that begins with "k" (sound)?" If a child gives a word that begins with "o" but has "k" sound, accept it.

THIRTEENTH DAY

LISTENING FOR "p" AND "r" AS BEGINNING SOUNDS.

"Listen to these words." Dictate:

"papa, page, package, pansies"--writing the words on the board as you say them.

"These words all begin with the same sound--"p" (sound). I'll say the names of some things to eat that begin with "p" (sound). You listen and say them after me." Dictate these words slowly emphasizing the first sound:

"pancake, peaches, peanuts, pears, peas, pickles, plums, porridge, potatoes, pumpkins"

"We'll say the names of some things to do that begin with "p" (sound). Say them after me."

Listen, please.

"Listen, please."

"The answer to these questions is 'No'. Can you tell me

all the answers?"

"That's not what I'm asking."

"What does 'listen' mean to you?"

"That's what you tell me."

"That's a very good question."

"What are you saying?"

"That's what I'm asking."

"What do you mean by 'listen'?"

"Can you tell me what 'listen' means?"

Give a word that begins with 'L' and the 'L' sound, maybe 'L'.

LISTENING

LISTENING FOR 'L' AND 'L' SOUNDS

"Listen to these words: 'Listen'."

"Listen, please. Listen, please. Listen, please."

Yes, please.

"These words all begin with the same sound--'L' (sound). I'll say the

sound of each word to you. Listen to the sound of 'L' (sound). You listen and

say the sound of each word. Listen to the sound of 'L' (sound). You listen and

"Listen, please. Listen, please. Listen, please."

"Listen, please. Listen, please. Listen, please."

"We'll say the sound of each word to you. Listen to the sound of 'L' (sound)."

Yes, please. Listen, please. Listen, please. Listen, please.

Dictate:

"paddle, paint, pass, pay, pick, pinch, plant, play, plow, point, pull, pretend"

"Here are some names that begin with "p" (sound). Say them after me."

Dictate:

"Peter Pan, Peter-Rabbit, Paul, Pauline, Patsy, Pilgrims"

"What is the first sound in all these words?"

"These are some words that begin with "r" (sound) like run." Dictate these words and write them on the board at the same time:

"radio, raisin, ring, ride"

"I'll say some other words that begin with "r" (sound) and you say them after me." Dictate:

"rubber, rope, rocking-horse, river, radiator, rag, reach, red breast"

"These are people's names that begin with "R" (sound). Say them after me." Dictate:

"Robert, Richard, Roy, Ralph, Ruth, Raymond, Rosemary"

"Here are some riddles. The answers begin with "p". Can you guess the answers?"

"Something to write on paper

A bird that talks parrot

Something to write with Pencil or pen

A piece of money penny

When you have lunch out-of-doors, it is a picnic

A white rabbit's ears are pink

We make jack-o-lanterns of pumpkins

Director:

"Polly, please, pass my first, second, third, and fourth.
Well, please."
"Here are some words that begin with 'r' (rhyme). Say them after me."

Director:

"Peter Pan, Peter-Pan, Peter, Paul, and Mary, Mary."
"What is the first sound in all these words?"
"There are some words that begin with 'r' (rhyme) like run." Director

These words can write them on the board at the same time.
"radio, radio, radio, radio."
"I'll say some other words that begin with 'r' (rhyme) and you say

them after me." Director:
"rubber, rope, rocking-chair, river, railroad, red, ready, rest."
"Please!"

"There are people's names that begin with 'r' (rhyme). Say them
after me." Director:
"Robert, Richard, Roy, Ralph, Ray, Raymond, Ramsey."

"Here are some rhymes. The answers begin with 'r'. Can you guess
the answers?"
"Something to write on paper."

A bird that talks parrot.
Something to write with pen.
A place of money money.

When you have lunch out-of-doors, it is a picnic.
A white rabbit's ears are pink.
We make jack-o-lanterns of pumpkin.

"The answers to these riddles begin with "r". Can you guess the answers?"

We listen to programs on the radio.

What can you do with a bell? ring it

What pulls Santa's Sleigh? reindeer

What do you do in an automobile? ride

What do you have to keep your feet dry on rainy days? rubbers

FOURTEENTH DAY

REVIEW

LISTENING FOR "d", "j", "k", "n", "p", "r", AS BEGINNING SOUNDS

Put these letters on the board--d, j, k, n, p, and r.

"We'll work with all the letters we have had this week. I'll say some words and you say the first sound." Dictate slowly, emphasizing the first sound. Be sure all the children are giving the sounds. Dictate:

"dog, January, kite, nine, paper, real, pumpkin, put, kitty, keep, jello, juice, read, recess, newspaper, nest". Put a circle on the board with the letters arranged as in Figure I.

"We'll play Merry-go-round with these letters."

"You must say a word that begins with
each sound to make the wheel go around.

I'll ride first like this: day, John

kite, no, play, race. Let's see how

fast you can make it go. If you give a word that begins with the wrong sound, you must stop and begin over."

Let each child have a turn.

The number of these tickets is 12. The two given the company

as listed in previous to the

that was paid to the

what John Smith's receipt

that he has to be an authorized

that he has to be an authorized

RECEIVED

DATE

LISTED FOR THE YEAR 1912

For those listed in the year 1912, 1913, 1914, and 1915.

It will not be all the listed in the year 1912, 1913, 1914, and 1915.

And you will not be all the listed in the year 1912, 1913, 1914, and 1915.

And you will not be all the listed in the year 1912, 1913, 1914, and 1915.

And you will not be all the listed in the year 1912, 1913, 1914, and 1915.

And you will not be all the listed in the year 1912, 1913, 1914, and 1915.

And you will not be all the listed in the year 1912, 1913, 1914, and 1915.

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And you will not be all the listed in the year 1912, 1913, 1914, and 1915.

And you will not be all the listed in the year 1912, 1913, 1914, and 1915.

And you will not be all the listed in the year 1912, 1913, 1914, and 1915.

And you will not be all the listed in the year 1912, 1913, 1914, and 1915.

Draw a hill with the letters on it as in Figure II.

"Let's play we are going sliding. To take your sled up the hill you must say a word that begins with each letter. If you make no mistakes, you may slide down."

Figure II

FIFTEENTH DAY

LISTENING FOR "d", "k", "n", "p", "r", AS FINAL SOUNDS

Have these letters on the board--d, k, n, p, and r. Point to each letter and give the sound, allowing the children to say them also.

"These are the sounds we have been listening for this week at the beginning of words. Today we are going to listen for the same sounds at the end of words. Here are some words that end in "d" (sound). Say them after me." Dictate these words slowly, emphasizing final sounds. Have the children say each word after you. Dictate:

"aboard, afraid, and, around, bad, bond, bird, card, child, cloud, cold, crowd, dad, fed, field, good, had, hold, kid, land, mad, old, sand"

"These words end in "k" (sound). Say them after me." Dictate:

"ask, back, black, block, book, broke, chalk, chunk, clock, cook, crack, dark, fork, jack, junk, look, nock, oak, pack, stick, talk"

"These words end in "n". Listen. When you say the word be sure I can hear "n" (sound) at the end of every word." Dictate the words slowly, making the ending sound very noticeable. Dictate:

"acorn, again, an, barn, bean, can, captain, chain, clean, down, even, fan, golden, gun, hen, in, kitten, lawn, lemon, man, noon, often, pan, ran, sign, ten, town, upon, violin, win"

"These words end in 'p' (sound). Say them after me so that I can hear 'p' (sound) in every word." Dictate:

"asleep, bump, camp, cap, chip, clap, deep, drop, flop, gallop, help, hop, keep, lamp, nap, peep, rope, soap, sweep, tramp"

"These words end in 'r' (sound). Say them after me." Dictate:

"after, alligator, answer, baker, barber, bear, car, cover, door, ear, either, eraser, farmer, four, hair, jar, ladder, miller, mother, near, neighbor, our, pair, rather, river, saucer, tear, their, under, wear, winter, your"

Put the review letters on the board.

"Let's play a game with these sounds. I'll say a word that begins with one of these sounds and I want you to think of a word that ends with that same sound. I will point to the letter on the board when I say the word. The one who gets the word first may give another word for some one else to match at the end. For instance, if I said red, you could say their because red begins with 'r' and their ends with 'r'. Let's try one together. 'Not'-- you want a word that ends in what?" Help them if necessary to get a word with 'n' at the end. "This time let's see if you can do it along. 'Dad'." Continue, using words from the previous lists in this lesson. Each time have the one who says the word point to the letter on the board.

SIXTEENTH DAY

LISTENING FOR "w" AT THE BEGINNING OF WORDS

"Today we are going to listen for a different sound at the beginning of some words. Listen". Dictate and write these words on the board as you say them:

"we, way, wet"

"Say these words after me." Dictate the three words again. "These words all begin with "w" (sound) "w" (name). Listen for some other words that begin with "w" (sound). Here are the names of some things you can do that begin with "w" (sound). Say each one after me." Dictate:

"wait, wake, walk, wash, watch, wave, wish, work"

"These are parts of a house that begin with "w" (sound). Listen for "w" (sound) at the beginning of each word. Say the words after me." Dictate:

"walls, windows, wood"

"I shall begin some sentences and see if you can think of a word that begins with "w" (sound) to finish the sentences. Listen!"

"The horse was pulling a wagon."

Mother said, "If it isn't ready, do not wait".

The children went for a long walk.

Santa said, What do you want?"

The sun makes it very warm.

What can you do to help with the dishes? wash

When the parade came by we watched.

The wind came from the west.

The strawberries were growing wild

What do you need to catch fish with? worms"

Put several w's on the board.

"Let's play a new game with 'w'. Every time you can think of a word that begins with 'w', tell me and I'll put it on the board and your name with it. We'll see who can get the most words. Be sure your word begins with 'w' (sound)--like word."

If any child has difficulty in thinking of a word help him to get one from the words you have said together. For example, you might say, "How did you come to school?" walk, or "What did you do to your face this morning?" etc.

SEVENTEENTH DAY

LISTENING FOR "s" AND "t" AS BEGINNING SOUNDS

"Today we shall listen for words that begin like so, six, see". Write these words on the board as you say them.

"These words begin with 's' (sound) 's' (name). Listen." Repeat the words. "Did you hear 's' (sound) in each word? These are the names of things that are good to eat that begin with 's' (sound). Listen for 's' at the beginning of each word. Say the words after me." Dictate slowly:

"salad, salt, sandwiches, sauce, soda, soup, spinach, squash, steak, strawberries"

"What is the first sound in each of these words? Here are the names of some things to play with that begin with 's' (sound). Be sure to say the first sound so I can hear it." Dictate:

"sailboat, sandpile, skates, skis, sleds, soldiers, see-saw"

"Here are the names of some numbers that begin with 's' (sound). Say them after me." Dictate:

"seven, seventeen, six, sixteen"

"These are the names of some things people wear. Each one begins with 's' (sound). Say them after me." Dictate:

"sandals, scarf, skirt, slippers, socks, stockings, suits"

"These are the names of some things you can do which begin with 's' (sound). Say them after me." Dictate:

"scribble, see, serve, sing, sit, skate, sleep, slide, smile, sneeze, stand"

"Can you answer these questions with a word that begins with 's' (sound)?"

"Who comes down the chimney Christmas Eve? Santa"

What two days of the week begin with 'S'? Saturday, Sunday

What do you use to cut out a picture? scissors

What does Mother do with a needle and thread? sew

What is a dime made of? silver

What goes up the chimney? smoke

What can you make with snow? snowballs snowman

What do you use to get your hands clean? soap

What do you sing? songs

"Listen for another sound at the beginning of these words." Write these words on the board as you say them. Dictate:

"to, ten, tall"

"These words all begin with 't' (sound) 't' (name). Say them with me."

Repeat the three words having the children say them too. Point to the first letter in each word as you say the word.

"There are the names of some words that begin with 'a' (second). Say

them after me." (teacher)

"avenue, avalanche, axe, avalanche"

"These are the names of some things people use. Read and begin with

"a" (second). Say them after me." (teacher)

"avalanche, axe, avalanche, axe, avalanche, axe"

"These are the names of some things you can do with people with 'a'."

(chant). "Say them after me." (teacher)

"avalanche, axe, avalanche, axe, avalanche, axe, avalanche, axe"

answer, stand"

"Can you answer these questions with a word that begins with 'a' (second)?"

"Who comes down the chimney Christmas Eve? Santa

What day begins the week? Sunday"

"What do you use to cut with a picture? Scissors"

"What does Father do with a needle and thread? Sew"

"What is a fine needle? Sewer"

"What goes up the chimney? Smoke"

"What can you make with snow? Snowball"

"What do you use to get your hands clean? Soap"

"What do you sing? Song"

"Listen for another sound at the beginning of these words." (teacher)

Read words on the board as you say them. (teacher)

"Go, say, tell"

"These words all begin with 'a' (second). Say them with me."

Repeat the three words having the children say them too. Point to the first

letter in each word as you say the word.

"Here are the names of some things to eat that begin with "t" (sound).

Say them after me." Dictate:

"Toast, tomatoes, turkey, turnips"

"These numbers all begin with "t" (sound). Say them after me. Be sure that I can hear "t" at the beginning of each word." Dictate:

"ten, twelve, twenty, two"

"Here are the names of some things we need that begin with "t" (sound).

Say them after me." Dictate:

"teeth, tie, tongue, toothbrush, tooth paste, towel, tub"

"These words tell when and begin with "t" (sound). Say them after me."

Dictate:

"Tuesday, today, tomorrow"

"Can you think of the name of a game that begins with "t" (sound)?"

tag or tennis

"Can you think of the name of an animal that begins with "t" (sound)?"

tiger

"Do you know the name of a vegetable that begins with "t" (sound)?"

tomato

"What does the train run on?" tracks

"What do apples grow on?" trees

"Tell me a word that begins with "t" (sound)."

Caution:

If the children are giving words that do not begin with "t". Repeat the first part of the lesson, dictating the words again.

EIGHTEENTH DAY

LISTENING FOR "y" AND "v" AS BEGINNING SOUNDS

"I'll say some words that begin with "y" (sound) "y" (name) like yes. Listen for the first sound." Dictate the following words and write them on the board: "year, you, your"

"I'll say some other words that begin with "y" (sound). Listen." Dictate: "yard, yarn, young, yourself, you'll, year"

"Say the words after me this time. Be sure to say every word as I do." Dictate the same list with children repeating the words.

"See if you can tell the answers to these riddles. All the answers begin with "y" (sound).

"What color is butter?" yellow

"What day came before today?" yesterday

"Whom do you take care of in school?" yourself

"Where do we play at school?" yard

"What are woolen mittens made of?" yarn

"Now I'll say some words that begin with "v" (sound) "v" (name) like very. Listen." Dictate and write on the board: "very, visit, violet".

"Listen to some other words that begin with "v" (sound)." Dictate:

"vegetable, valentines, vacation, varnish, violin, vase, valley, victrola".

"Did you hear "v" (sound) at the beginning of each word? Say the words after me this time. I want to hear the first sound--"v"--very plainly."

Dictate the same list of words and have the children repeat each word after you.

THE FIRST LESSON

THE FIRST LESSON

"I'll say some words that begin with 'y' (sound)." (Teacher) I'll say.

Listen for the first sound. "I'll say some words that begin with 'y' (sound)." (Teacher) I'll say.

Now listen. "yep, yes, you, year."

"I'll say some words that begin with 'y' (sound)." (Teacher) I'll say.

Listen. "yep, yes, you, year, yourself, yes, yep."

"I'll say some words that begin with 'y' (sound)." (Teacher) I'll say. He says to all every word in 1-40.

Listen for the first sound. "I'll say some words that begin with 'y' (sound)." (Teacher) I'll say.

Now if you can tell the answers to these questions. All the answers.

Begin with "y" (sound).

That word is "yep" (sound).

"I'll say some words that begin with 'y' (sound)." (Teacher) I'll say.

Listen for the first sound. "I'll say some words that begin with 'y' (sound)." (Teacher) I'll say.

Now do we say "yep" (sound)?

That word is "yep" (sound).

"I'll say some words that begin with 'y' (sound)." (Teacher) I'll say.

Listen for the first sound. "I'll say some words that begin with 'y' (sound)." (Teacher) I'll say.

Listen for the first sound. "I'll say some words that begin with 'y' (sound)." (Teacher) I'll say.

"I'll say some words that begin with 'y' (sound)." (Teacher) I'll say.

Listen.

"I'll say some words that begin with 'y' (sound)." (Teacher) I'll say.

Listen for the first sound. "I'll say some words that begin with 'y' (sound)." (Teacher) I'll say.

Listen for the first sound. "I'll say some words that begin with 'y' (sound)." (Teacher) I'll say.

Listen for the first sound. "I'll say some words that begin with 'y' (sound)." (Teacher) I'll say.

"The words to finish these sentences begin with "v" (sound). See if you can tell me the right word."

"At Christmas time we had a vacation."

"We put flowers in a vase."

"Grapes grow on vines."

"Grandmother sometimes comes to our house to visit."

"Carrots, potatoes and spinach are vegetables."

"I shall say some more words. You say the word after me and then tell me the first sound. Listen." Dictate:

"very, yes, yellow, vacation, yours, yard, victrola, violet"

Caution: Watch each child to be sure that he gives the correct sound. If either sound seems to be causing confusion, repeat the lists containing the sound at the beginning of the lesson.

NINETEENTH DAY

REVIEW OF "w", "s", "t", "y" AND "v" AS BEGINNING SOUNDS

"Today's words begin with the sounds we have been working on this week. I'm going to say some words beginning with each of these sounds. You say the first sound in the words." Dictate:

"very, want, strong, teacher, you, visit, violet, year, yes, your, Tuesday, six, so, week, water"

"We'll play a game with these sounds." (Have the letters on the board. Select two children to play. Give these directions.) "I'll say a word that begins with one of these sounds and you will both try to think of another word that begins with the same sound and find the letter on the board. Whoever gets the most words first, wins."

"The words to finish these sentences begin with 'y' (yacht), and 12

you can tell me the right way."

"As the teacher says we get a 'yacht'."

"The first letter is a 'y'."

"Come now my class."

"Remember, remember, remember, remember, remember."

"Remember, remember, remember, remember, remember."

"I shall say some more words. The first word after me and then tell

me the first sound. Listen. 'Yacht'."

"y-y-y, y-y-y, y-y-y, y-y-y, y-y-y, y-y-y, y-y-y, y-y-y."

Listen. 'Yacht' each child to be sure that he gives the correct sound. If

other sounds come to be coming confusion, repeat the first sound only the

sound at the beginning of the lesson.

REVISION

REVISION OF 'y' AND 'y' AS BEGINNING SOUNDS

"Today's words begin with the sound 'y' have been working on this word."

The going to say some words beginning with each of these sounds. The say

the first sound in the words. 'Yacht'."

"y-y-y, y-y-y, y-y-y, y-y-y, y-y-y, y-y-y, y-y-y, y-y-y, y-y-y, y-y-y."

Twenty, six, six, six, six, six, six, six, six, six."

"We'll play a game with these words." (Give the letters on the board.)

Which one children to play. Give these directions. "I'll say a word and

listen with one of these words and you will look up the letter on the board."

and that begins with the same sound and find the letter on the board. Rep-

eat. Give the next words 'y-y-y'."

Dictate:

"yours, watermelon, summer, too, vegetable"

Select two different children for each of the following lists:

1. violin, turkey, suppose, went, yesterday
2. stop, west, year, tie, victrola
3. we, vacation, turnip, sunshine, yellow
4. tablecloth, sword, wedding, vase, yard.

TWENTIETH DAY

LISTENING FOR "s", "t", AND "y" AS FINAL SOUNDS

Put these letters on the board, s, t, and y.

"You can tell these sounds when you hear them at the beginning of a word. Tell me the first sound you hear in these words." Dictate: "Sing, to, yellow".

"Today we are going to listen for these same sounds at the end of words. Tell me the last sound you hear in is. I'll say some more words that end in "s" (sound) and you say them after me. I want to hear ^z"s" (sound) every time." Dictate: "as, babies, balls, bees, boss, bus, chase, class, dress, glass, has, horse, kiss, miss, pass, sits, us, yes."

"These words all end in "t" (sound). Listen and say the words after me. Be sure to say each word so that I can hear "t" at the end." Dictate: "at, bat, boat, beat, cat, cost, out, dirt, dust, eat, except, fast, flat, frost, get, goat, heart, hit, hot, it, kept, left, let, melt, nest, night, net, out, part, parrot, quit, seat, visit, wait."

"These words end in "y" (sound). Say them after me." Dictate: "alley, already, angry, any, baby, body, bunny, candy, carry, celery, city, company,

dandy, dirty, every, empty, forty, grocery, happy, heavy, jelly, kitty, lady, muddy, naughty, pussy, really, slippery, teddy."

"Let's play a game of base-ball with these sounds. "s" (sound) is First Base. "t" (sound) is Second Base, and "y" (sound) is Third Base. You begin with 1st Base. Then go to 2nd Base and 3rd Base giving a word that ends in the letter on each base to make a Home Run. Remember each word must end in the sound on the base. I'll make the first home-run to show you how: balls, cat, jelly" . t

Let each child have a turn.

y

s

Home Plate

DIAGRAM for the board.

TWENTY-FIRST DAY

LISTENING FOR "th" AND "wh" AT THE BEGINNING OF WORDS

"Sometimes two letters together make one sound. Listen." Dictate and write on the board: "the, this, then.". "These words begin with "th"(sound) "th" (names). Here are some more words that begin with the same sound--"th"--. Say them after me." Dictate: "that, them, there, these thing". "What is the first sound that you heard in all these words? I shall ask some questions to see if you can answer each question with a word that begins with "th" (sound)"

"What will you have to do to answer these questions?" think

"What is the number which comes after twelve?" thirteen

"What can you do with a ball?" throw

"What day of the week comes after Wednesday?" Thursday

"What does mother put on her finger when she is sewing?" thimble

"Listen for another sound." Dictate and write:

"what, when, while". "Those words begin with "wh" (sound) "WH" (names). Say these words after me. Be very careful of the first sound."

Dictate, emphasizing the "wh" at the beginning:

"whee, wheel, wheelbarrow, where, whether, which, while, whiskers, whoa, why". "What is the first sound in all these words?"

"Let's play a game with words that begin with "wh" (sound) and "th" (sound). You all stand up and I'll say some words that begin with "wh"(sound) and some words that begin with "th" (sound) and some other words that begin with other letters. If you hear a word that begins with either of the sounds "wh" or "th", clap your hands. If you clap for any other sound except "th" (sound) or "wh" (sound) you must sit down and are out of the game. Listen carefully. Remember just clap if the word begins with "th" (sound) or "wh" (sound)." Dictate:

"as, book, the, carrot, certainly cellar, why, cottage, when, December, dime, fifteen, firemen, they, father, furnace, good, white, grade, gun, then, that, iron, jack-o-lantern, houses, there, key, knight, juice, where, throw, tomorrow, touch, tent, thirty."

The last one standing wins. Play again using the same words.

TWENTY SECOND DAY

LISTENING FOR "ch" AT THE BEGINNING AND ENDING OF WORDS.

"Yesterday we played with "th" (sound) and "wh" (sound)." write the blends on the board as you say them. "Today we are going to listen for words that begin like chop, child, chase." Write these words on the board

Just now we have got to the "a" and "e" words.

"Listen for another word." (Pause and listen)

"Now, what word?" (Pause and listen)

"The word is 'a'." (Pause and listen)

"Now, what word?" (Pause and listen)

"The word is 'e'." (Pause and listen)

"Now, what word?" (Pause and listen)

"The word is 'a'." (Pause and listen)

"Now, what word?" (Pause and listen)

"The word is 'e'." (Pause and listen)

"Now, what word?" (Pause and listen)

"The word is 'a'." (Pause and listen)

"Now, what word?" (Pause and listen)

"The word is 'e'." (Pause and listen)

"Now, what word?" (Pause and listen)

"The word is 'a'." (Pause and listen)

"Now, what word?" (Pause and listen)

"The word is 'e'." (Pause and listen)

"The word is 'a'." (Pause and listen)

"The word is 'e'." (Pause and listen)

"The word is 'a'." (Pause and listen)

THE END OF THE FIRST DAY

LISTENING FOR "a" AND "e" WORDS

"Today we listened for 'a' and 'e' words." (Pause and listen)

"Today we listened for 'a' and 'e' words." (Pause and listen)

"Today we listened for 'a' and 'e' words." (Pause and listen)

as you say them. "These two letters together say "ch" (sound). Here are the names of some things to eat that begin with "ch" (sound). Listen and say them after me." Dictate: "cherries, chestnuts, chicken, chocolates, cheese".

"Tell me the right word that begins with "ch" sound to finish these sentences."

"We sit on chairs."

We write on the board with chalk."

We use our teeth to chew."

The Farmer has some baby chickens."

Santa Claus comes down the chimney."

Boys and girls are children."

The policeman in charge of all the policemen is the chief."

"Sometimes we hear "ch" (sound) at the end of a word. Listen and say these words after me." Dictate:

"beach, birch, branch, bunch, catch, couch, ditch, hitch, march, match, ouch, patch, peach, punch, ranch, such, switch, teach, touch, which."

"What is the last sound in each of these words?"

"Let's play with words that begin with "ch" (sound) and words that end with "ch" (sound). If I say a word that begins with "ch" (sound), you must say one that ends with "ch". If I say a word that ends with "ch" (sound), you must say one that begins with "ch" (sound). Each time you get one, we'll count it one and see who can get the highest score."

"If I said children, you might say catch. Already, chocolates."

as you say them. "These two letters together say 'oh' (sound). Now are

the names of some things we can say like this (say) 'oh' (sound). Listen and say

them after me. "Whisper, whisper, whisper, whisper, whisper, whisper,

"Tell me the right word that begins with 'oh' (sound) in these words

whisper, whisper.

We all say whisper.

We write on the board with whisper.

We use our hands to whisper.

The farmer has some whisper.

Some children come from the whisper.

Boys and girls are whisper.

The policeman is saying to all the children in the whisper.

"Sometimes we hear 'oh' (sound) at the end of a word. Listen and say

these words after me. "Whisper,

"leaf, birch, branch, better, better, better, better, better, better,

match, much, patch, patch, patch, patch, patch, patch, patch, patch,

"That is the last sound in each of these words."

"Let's play with words that begin with 'oh' (sound) and words that end

with 'oh' (sound). If I say a word that begins with 'oh' (sound), you say

any one that ends with 'oh' (sound). If I say a word that ends with 'oh' (sound),

you must say one that begins with 'oh' (sound). Now who goes first?

"We'll count it out and see who can say the highest number."

"If I said whisper, you might say whisper, whisper, whisper."

TWENTY THIRD DAY

LISTENING FOR "sh" AT THE BEGINNING AND ENDING OF WORDS

"Tell me the first sound in then, in when. Tell me the first sound in chop, the last sound in which. Today we are going to listen for a new sound." Dictate and write:

"she, shop, ship".

"All these words begin with "sh" (sound). Say them after me." Repeat.

"These two letters "s" and "h" together say "sh" (sound). Here are some other words that begin with "sh" (sound). Say them after me. Be sure to say "sh"(sound) very clearly." Dictate:

"shall, shelf, shine, shoot, show".

"What is the first sound in each of these words? Tell me a word that begins with "sh" (sound) to finish these sentences."

"Scissors are shapp."

Bo Peep was looking for her sheep."

The groceries were on the shelf."

The boy shined the shoes."

The sun is shining."

Shepherds take care of sheep."

"Sometimes we hear "sh" (sound) at the end of words. Listen!" Dictate:

"wish, dish." "Did you hear "sh" (sound) in these words? Here are some more words that end with "sh" (sound). Say them after me." Dictate the words slowly, emphasizing the last sound:

"brush, bush, dish, English, fish, fresh, polish, push, radish, splash, squash, toothbrush, varnish, wash, wish."

"Let's play a game with words that begin or end with "sh" (sound). I'll start and if my word begins with "sh" (sound), yours must end in it. For instance, if I say she, you could say wish. Whoever gives the first word may be "IT" and give the next one. Remember your word must end the way mine begins."

"shop"--

TWENTY FOURTH DAY

LISTENING FOR "dr", "fr", "gr", "br", "tr" AT BEGINNING OF WORDS

"Tell me the first sound in do, in time, in give, in big, in fun, in red. Now I'm going to say some words that begin with two sounds you know. Listen." Dictate:

"dress, drill, drive, drop"

"You say these words after me". Dictate the same list. "These words all begin with "dr" (sound). (Write the letters on the board.) Now I'll say some words that begin with "tr" (sound) like tree. Listen for "tr" (sound) in each word." Dictate:

"train, tramp, trick, tricycle, truck."

"Say the words after me. I want to hear the first two sounds very clearly." Dictate the same list and have the children repeat each word.

"These words all begin with "tr" (sound). (Put this blend on the board.)

"This time the words will begin with "gr" (sound) like ground. Listen!" Dictate:

"grape, grow, grocery, gray"

"You say these words after me. Be sure I can hear "gr" (sound) in each word." Dictate the list. "These words all begin with "gr" (sound). (Put this blend on the board as you say it.)

"This time the words will all begin with "br" (sound) like brown.

Listen for "br" (sound) in each word." Dictate:

"brake, breakfast, bridge, bright, brother"

"Did you hear "br" (sound) in each word? Say the words after me."

Dictate the same list. "These words all begin with "br" (sound). (Write the blend on the board.)

"Now we'll have some words that begin with "fr" (sound) like Friday.

Listen!" Dictate:

"frog, from, fruit, front, frozen". "Say these words after me."

Dictate the same list. These words all begin with "fr" (sound). (Put this blend on the board.)

"Look at these blends on the board. What letter is in all of them? Say the sounds after me." Point to each blend as you say it slowly and distinctly.

"Let's play a game with these letters on the board. We'll have two teams and have turns. When I say a word the one whose turn it is must come and find the letters the word begins with and say the sound. If you get the right one, it counts a point. Be ready for your turn. Listen carefully."

Dictate:

"friend, fresh, drive, green, grandmother, great, tractor, trunk try, brush, bread, broom, drum, dream". Count the score.

Caution:

Watch for any confusion between words beginning with "dr" and "Br".

"This time the words will all look alike" (said) the boy.

"Listen for 'it' (said) in each word." (said)

"Write, underline, circle, square, triangle."

"Did you hear 'it' (said) in each word? Put the words under me."

Write the words like. "These words all begin with 'it' (said). (said)

the place on the board.

"Now we'll have some words that begin with 'it' (said) like this."

Write, underline, circle, square, triangle.

"Write, underline, circle, square, triangle. Now write words after me."

Write the words like. These words all begin with 'it' (said). (said)

Write on the board.

"Look at these words on the board. Now listen in all of them."

Put the words after me. "Write in each blank as you say it slowly and

distinctly."

"Let's play a game with words written on the board. Tell how you

know and have them. Then I say a word and you write it in each blank

and find the letters that will make it a word. If you can find

right one, it counts a point. Go on until you have five words written.

Write:

"Write, underline, circle, square, triangle. Now

write, underline, circle, square, triangle. Now write the words."

Write:

Write for my collection between words beginning with 'it' (said)

TWENTY FIFTH DAY

LISTENING FOR "cl", "fl", AND "pl" AT THE BEGINNING OF WORDS

"What is the first sound you hear in--can, come, coat,

in--for, fight, fit,

in--put, push, pet

in--like, little, live? Sometimes

we hear two sounds together. Listen!" Dictate and write on the board:

"class, clap. Those words begin with "cl" (sound). Say them after me."

Repeat: "Class, clap. Can you hear "cl" (sound)? Here are more words that begin with "cl" (sound). Listen, and say each word after me." Dictate:

"clay, clean, clear, climb, cloak, clook, close, closet, clothes, cloud, clown. What is the first sound in all these words?"

"Listen!" Dictate and write:

"fly, flat".

"These words begin with "fl" (sound). Here are some other words that begin with "fl" (sound). Say them after me. Say the first sound very carefully." Dictate: "flag, flow, flicker, flies, floor, flop, flower, flying. What is the first sound you said in each of these words?"

"These words begin with different sound." Dictate and write: "play, plow". "These words begin with "pl" (sound). Say them with me." Repeat. "Here are other words that begin like play and plow. Listen and say them after me. Be sure to say the first sound plainly." Dictate:

"plane, plant, planting, plate, platter, playground, playhouse, please".

"What is the first sound in each of these words we just said?"

"I'll say some words that begin with each of these three blends. You listen and tell me the first sound. Be sure to tell me the first sound."

Dictate:

"clay, floor, flop, platter, flower, plain, playground, cloak, clear, climb, plate, please."

Put on the board: cl, fl, pl.

"Let's play with words that begin with these blends. You may all stand up. We shall begin with "cl" and the first person must give a word that begins with "cl", the next one, one that begins with "fl", and the next, one that begins with "pl". If you miss you must sit down. Let's see who can stand up the longest. Remember the words must begin with just these sounds. You may say any of the words we have said together."

TWENTY-SIXTH DAY

LISTENING FOR WORDS THAT RHYME WITH TOWN AND SEE.

"I'm going to read you a rhyme. Words which sound alike at the end are rhyming words. Bed and fed, boy and toy, sun and run, are all rhyming words. Listen to this rhyme!" Read:

The Sugar Plum Tree

Have you ever heard of the Sugar-Plum Tree?
'Tis a marvel of great renown!
It blooms on the shore of the Lollipop Sea
In the garden of Shut-Eye Town.

So come, little child, cuddle closer to me
In your dainty white nightcap and gown
And I'll rock you away to that Sugar-Plum Tree
In the garden of Shut-Eye Town.

Read the lines again emphasizing the last word in each line.

"Did anyone hear any words that sounded alike?" If no child can tell the words, tell them that renown, town and gown rhyme, and that tree, me and see rhyme. Have the children repeat the words after you:

"renown, town, gown, tree, see, me." Re-read the stanzas to the class.

"I'm going to say other words that rhyme with town and renown and you say the words after me. Dictate these words slowly and have the children repeat them:

"clown, down, town, gown, frown, brown."

"These words rhyme because they sound alike at the end. Have you ever seen a clown in the circus? Let's make a story about a clown using all the words we can that rhyme with clown. I'll start the story and when I give a single sound, you say the word that starts with that letter and rhymes with clown. Already. As I was walking d--t--, I met a very funny cl--. He was dressed in a br-- g--. He did many funny things. He was running around when he fell d-- and bumped his cr--. Show me your crown. Let's try this story again--about the clown who fell down." Repeat the story again with the children supplying the rhyming words. "Let's tell the story once more with each one of you telling me a different word." Repeat the story with different children saying the words. "Perhaps you would like to make a picture of this funny clown in his brown gown later today."

"Let's see if we can find some words that rhyme with see and tree. Say these words after me." Dictate:

"be, flee, free, he, me, knee, tea, we".

"Can you finish these sentences with words that rhyme with me?" When you say the sentence give just the beginning sound of the last word.

"The bird's nest is in the tr ee."

Mother likes to drink t ea."

Buzz, buzz, says the bumble b ee."

I'll look and s ee."

Take one, they are fr ee."

"See how many words you can say that rhyme with clown."--try group work.

"Who would like to tell me all the words that they can think of which rhyme with see?"

(Individuals)

If the children are unable to give words, repeat the lists from this lesson and have them say the words after you again.

TWENTY-SEVENTH DAY

LISTENING FOR WORDS THAT RHYME WITH "FALL" AND "MEN"

"Humpty Dumpty sat on a wall
Humpty Dumpty had a great fall
All the king's horses and all the king's men
Couldn't put Humpty together again."

I think you may have all heard of Humpty Dumpty. Do you know what he was? Where did he sit? Say the rhyme with me." (Let different children who know the rhyme say it.) "What words sound alike in the first two lines? (Answer may be Humpty Dumpty.) Yes; listen while I say the first two lines and see if you can tell the word that rhymes with wall. Say the lines again. Listen to the next two lines and see if you can tell the rhyming words." If the children do not get "men and again", tell them.

"Can you finish these sentences with words that rhyme with cat?" Then you

say the sentence first and the children repeat it and then say:

"The child's name is cat." "cat."

Another child says: "The child's name is cat." "cat."

Then, later, says the teacher: "cat."

"I'll look and cat." "cat."

"This one, say cat." "cat."

"Can you say words you can say that rhyme with cat?"--my group says:

"We would like to tell us all the words that we think of which

rhyme with cat."

(Whistles)

"If you children are unable to give words, repeat the list from this

list and have them say the words after you again.

THIRTY-SEVEN

LISTENING FOR WORDS THAT RHYME WITH "CAT" AND "MAT"

"Many words that rhyme with cat are:

mat, bat, hat, cat, fat, sat, pat, flat,

all the words that end in the letter 't'.

Words that rhyme with mat are:

I think you may have all heard of: mat, bat, cat, fat, sat, pat, flat.

Now, when I say a word, say the word that rhymes with it. (The children listen)

and then the words are: "cat." (The words are: "cat, bat, hat, fat, sat, pat, flat.")

(Answer up to each child.) Now, listen while I say the first two words

and see if you can tell the word that rhymes with each. (The words are:

listen to the words: "cat" and "mat" and see if you can tell the rhyming words.")

If the children do not get "cat" and "mat", tell them:

"I'll say some more words that rhyme with wall and fall and you say them after me." Dictate:

"ball, call, doll, hall, small, tall."

"What did you hear in all these words?" (If no child can tell "all", tell them.) "Let's say them once more." Repeat the list. "Now I'll say some words that rhyme with men and again. Listen!" Dictate:

"broken, chicken, children, chinamen, eleven, even, fasten, frozen hen, kitchen, kitten, listen, pen, ten, then, when". "Did you hear "en" at the end of all the words?"

"Here are some questions. All the answers are words that rhyme with men."

What is a number that rhymes with men? ten

What can we write with? pen

Who can lay eggs? hen

What must we do if we want to hear a story? listen

"Finish these sentences with words that rhyme with wall."

Humpty Dumpty had a great fall.

Girls like to play with a ball or doll.

Babies are small.

Trees grow very tall.

Did you hear Mother call?"

"Let's say the words together again that rhyme with wall." Dictate the list again.

TWENTY-EIGHTH DAY

LISTENING FOR WORDS THAT RHYME WITH "PLAY" AND "WILL"

"Billy, Billy, come and play,
While the sun shines bright as day."

"Yes, my Polly, so I will,
For I love to please you still."

"Listen to a Mother Goose Rhyme about Billy, Billy." Read the rhyme twice, emphasising rhyming words. "did you hear any rhyming words? Listen to the first two lines again and see if you can tell me the word that rhymes with play." Read the two lines. "Listen for the rhyming words in the next two lines." Read the next two lines, emphasising the last word in each line. "Can anyone tell me the words that rhyme?" If no child gets will and still, read the lines again, asking them to listen for the word that rhymes with will.

"I shall say some words that rhyme with play and day, and want you to say them after me. Listen!" Dictate:

"anyway, away, birthday, clay, day, gray, hay, jay, lay, may, pay, say, stay, tray, way".

"These words rhyme because they sound alike at the end. Listen for words that rhyme with will and still." Dictate slowly:

"bill, fill, hill, Jill, kill, mill, spill, still, till."

"What did you hear in all these words?"

"Can you finish these riddles with words that rhyme with will?"

Jack went up the hill with Jill.

When you are hiding you must keep very still.

When your glass is full of milk you must be careful that it does not spill.

Flour is ground at a mill."

"The word that will finish the following sentences is a word that rhymes with play and day. Can you tell me the word? Remember it must rhyme with play."

When you buy something at the store, you must pay.

The color of a squirrel is gray.

The boy went to his grandmother's to stay.

Mother carried the dishes on a tray."

"Let's say all the words that rhyme with play again." Repeat the list and have the children say the words after you. Do the same for the words that rhyme with will.

Game:

Have a ladder on the board with four steps and see if a child can climb the ladder by saying a word that rhymes with will on each step.

"I'll climb the ladder first, -- still, spill, frill, trill. Who wants to climb next?"

TWENTY-NINTH DAY

LISTENING FOR WORDS THAT RHYME WITH "BUN" AND "PIG"

To market, to market, to buy a fat pig,
Home again, home again, jiggerty jig.
To market, to market, to buy a fat hog,
Home again, home again, jiggerty jog.
To market, to market, to buy a plum bun,
Home again, home again, market is done.

"I'll read you a Mother Goose rhyme. Listen for words that sound alike." Read the whole rhyme, emphasizing last words in the lines. "I'll

Now is going to be a day.
The word that I think the children remember is a word that begins
with day and day. Can you tell me the word? Remember to start with day.

When you are thinking of the word, say day.
The color of a squirrel is day.
The boy went to his grandmother's to day.
Mother carried the basket on a day.

"Let's say all the words that begin with day again." Repeat the list
and have the children say the words after you. In the same way, the words
that begin with day.

Now:
Have a leader on the board with four words and say it a child
and after the leader by saying a word that begins with day on each side.
"I'll think the leader says: day, day, day, day, day. The
words to think next."

THINK-THINK DAY

LISTENING THE WORDS THAT BEGIN WITH "DAY" AND "DAY"
To think, to think, to say a day.
To think, to think, to say a day.
To think, to think, to say a day.
To think, to think, to say a day.
To think, to think, to say a day.
To think, to think, to say a day.

"I'll read you a list of words that begin
with day. Read the words from the list to the class. "I'll

read the first two lines again and see if you can hear the word in the second line that rhymes with pig in the first line." Read the lines.

"Listen for two more lines and see if you can tell me the rhyming words."

Read the last two lines. If no one can tell bun and done, read the lines again and ask them to listen for the word that rhymes with bun.

"I'll say some words that rhyme with pig and jig and you say them after me. Listen!" Dictate:

"big, dig, fig, jig, wig."

"I'll say some words that rhyme with done and bun. Listen!" Dictate:

"fun, gun, none, run, sun, won."

"Let's make some stories with words that rhyme with big. Each time I stop, you say a word that rhymes with big. Be sure it sounds like big."

When you dictate the sentence, give just the first sound of the underlined word.

"I'm thinking of the name of a fruit that begins with f fig."

The doll had a wig of red hair.

The boys are going fishing today so they must dig some worms.

The snowman the children made was very big.

The children danced a jig."

"Let's make some stories with words that rhyme with done."

Playing tag is lots of fun.

The hunter has a new gun.

The game has not been won.

When he woke in the morning, he saw the sun."

Read the first two lines again and see if you can hear the word in the

second line that rhymes with it in the first. Read the lines.

Listen for two more lines and see if you can tell in the rhyming words.

Read the last two lines. If you can hear the word and read the lines

again and ask them to listen for the word that rhymes with and.

"I'll say some words that rhyme with and and the and see how many after

and. Listen!"

"and, and, and, and, and."

"I'll say some words that rhyme with and and the. Listen!"

"and, and, and, and, and."

"Let's make some stories with words that rhyme with and. Read the 1

story. You say a word that rhymes with and. Is there a word like and?"

When you discuss the sentences, give them the first word in the underlined

word.

"I'm thinking of the name of a fruit that begins with a."

The girl had a big apple.

The boys are going fishing today so they need big fish.

The snowman the children made was very big.

The children wanted a big cake.

"Let's make some stories with words that rhyme with and."

Playing tag is lots of fun.

The hunter had a new gun.

The team had not been run.

When he woke in the morning, he saw the sun.

"Let's play a game with these words that rhyme. I'll say a word and you tell me one that rhymes with it. We'll take turns and see who can tell most words. Remember your word must rhyme with the one I say. If you say a word which does not rhyme with mine, you are out of the game."

Dictate:

"big, wig, sun, dig, none, fun, fig, jig, run, gun."

THIRTIETH DAY

LISTENING FOR WORDS THAT RHYME WITH "BELL", "IN", AND "OUT"

Ding, Dong, Bell--Mother Goose

Ding, dong, bell.
Pussy's in the well!
Who put her in?
Little Tommy Lin,
Who pulled her out?
Little Johnny Stout.

"Do you know the Mother Goose Rhyme, 'Ding, Dong, Bell'? Listen and I shall say it for you." Say the rhyme. "If you know it, say it with me this time." Say the rhyme again emphasizing the rhyming words. "Did you hear any words that rhymed? Listen to the first two lines." Say the lines. "What words rhyme?" If no one can tell, bell and well, read the lines again asking them to listen for a word that rhymes with bell. Do the next two lines the same way, and then the last two.

"We have three sets of rhyming words in this rhyme--bell and well, in and Lin, and out and Stout. Let's say some other words that rhyme with bell and well. Listen and say the words after me." Dictate and have the children say them after you:

"fell, Nell, sell, shell, smell, spell, swell, tell".

"Let's play a game with these words that rhyme. I'll say a word and you tell me one that rhymes with it. We'll take turns and see who can tell most words. Remember your word must rhyme with the one I say. If you say a word which does not rhyme with mine, you are out of the game."

Disables:

"dis, wis, wis, nose, low, low, low, low."

EXERCISES

LISTENING FOR WORDS THAT RHYME WITH "WELL", "WELL", "WELL"

Ring, bang, bell—other names

Ring, bang, bell,
 Tenny's in the well,
 Who put her hat
 Little Tenny hat,
 Who pulled her coat
 Little Johnny Brown.

"Do you know the Mother Goose rhyme, 'Ring, bang, bell' is for me I shall say it for you." Say the rhyme. "If you know it, say it with me this time." Say the rhyme again explaining the rhyming words. "Can you hear any words that rhyme? Listen to the first two lines." Say the lines. "What words rhyme?" If no one can tell, well and well, read the lines again asking them to listen for a word that rhymes with well. Do the same two lines the same way, and then the last two.

"We have three sets of rhyming words in this rhyme—well and well, well and well, and well and well. Let's say some other words that rhyme with well and well. Listen and say the words after me." Disables and have the

children say these after you:

"Well, well, well, well, well, well, well, well."

"What did you hear in all these words that sounded just the same?"

Tell them if they cannot tell. Let's say some words that rhyme with in and Lin. Listen and say the words after me." Dictate:

"cabin, cousin, napkin, pin, raisin, robin, skin, spin, thin, tin, twin, win".

"What did you hear that sounded alike in all these words?" Tell them if they can not tell.

"Now we'll say some words that rhyme with out and Stout. Listen carefully and say the words after me."

Dictate:

"about, scout, shout"

"What did you hear that sounded the same in all these words?" Tell them if they can not tell you.

"This time I'll say the first sound and you tell me a word. All these words must rhyme with bell." Dictate:

"f - n - s - sh - sm - sp - sw - t -"

"Now we shall make words that rhyme with in." Dictate:

"sk - sp - th - t - w"

"Make these words rhyme with out." Dictate:

"sh - sc - ."

"Let's play a game with these words. One child is 'IT' and says a word as bell. The other children tell his words that rhyme with bell and the one who says the most words, can be 'IT' for words that rhyme with in."

TEACHING MATERIALS

These exercises were planned for the purpose of training children to see similarities and differences in word forms and word elements. It was intended to be mainly visual, however, the auditory is used where it seemed necessary or advisable. The words used were taken from Gates Primary Word list. The children are not expected to know or to learn the letters and words in these exercises. Pictures are used to help give meaning to the words. It is hoped that some of the meanings and words may carry over into the formal reading work. No mastery of the words is expected.

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KATHRYN M. JUNKINS

DIRECTIONS

Have these boxes on the board.

l	o
l	o

m	n
n	m

"Look at the first box. What two letters look alike?" Have a child find the two letters and then draw a line between them. "Do the same for the other letter in the box." "Now do the second box."

"Now look at the two big boxes at the top of your page. Put your finger on the first box. Find two letters that look just alike in that box. Draw a line from one to the other as we did on the board.

Be sure to draw a line between the letters that are just alike."

DIRECTIONS

Have these boxes on the board.



"Look at the first box. What two letters look alike? Have a child

find the two letters and then draw a line between them. Do the same for

the other letter in the box." "Now do the second box."

"Now look at the two big boxes at the top of your page. Put your

finger on the first box. Find two letters that look alike in that box.

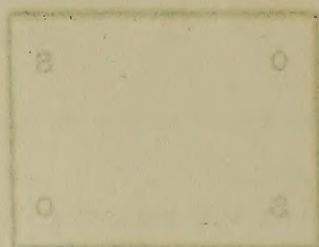
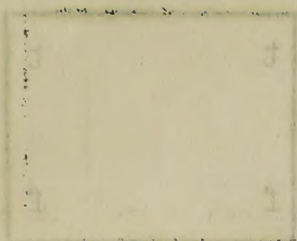
Draw a line from one to the other as we did on the board.

Be sure to draw a line between the letters that are just alike."

o	s
s	o

t	t
f	f

o	b	r	r	m	p	t	t	e	a
b	o	s	s	m	p	r	r	a	e
t	q	b	l	n	n	f	h	m	w
t	q	l	b	r	r	f	h	w	m
m	n	b	p	f	f	d	b	l	i
n	m	b	p	t	t	b	d	i	l
p	p	r	r	g	a	m	n	f	f
d	d	i	i	a	g	m	n	l	l
d	d	p	q	o	e	c	a	m	m
o	o	q	p	e	o	a	c	w	w



o	d	r	r	m	p	f	e	s
d	o	e	e	m	p	r	s	e
t	q	b	i	n	n	f	m	w
t	q	i	b	r	r	f	w	m
m	n	b	p	f	f	b	i	j
n	m	b	p	f	f	b	i	j
p	p	r	r	e	a	m	f	f
d	d	i	i	a	e	n	i	j
d	d	p	p	o	e	c	m	m
o	p	p	p	e	o	a	w	w

DIRECTIONS

Put the following 10 pairs of letters on the black board. Some alike, others not, as:

t-t, o-s, f-r, f-t, m-n, n-r, o-c, l-f, n-n, j-i,

Ask the children if the first two letters are alike - put a circle around them, demonstrate. Do the same with each pair of letters on the board.

(Let children volunteer to circle pairs).

Now look in the boxes on your papers. Some of the pairs of letters are alike and others are not.

Each time you find a pair that is alike put a circle around them.

s-d	f-f	e-e	b-d	s-o	t-f
k-o	r-r	d-d	a-a	c-c	r-n
c-c	m-w	a-o	s-t	o-o	l-t
r-n	a-o	g-h	n-n	v-u	h-h
t-t	p-p	t-n	r-r	j-g	g-a
r-r	q-r	f-f	s-s	i-i	f-f
a-e	d-f	u-u	y-g	k-b	n-o
b-b	e-e	v-w	x-x	c-c	w-m
k-b	n-o	s-t	d-e	m-m	l-l
k-k	d-e	z-s	z-z	b-k	h-h
e-d	t-t	d-f	b-b	d-b	p-b
f-f	s-s	y-g	v-v	p-p	c-e

l-l	s-s	y-g	v-v	p-p	c-e
e-d	f-t	d-l	b-b		
k-k	d-e	s-s	z-z	p-k	h-h
k-b	n-o	s-t	d-e	n-m	i-l
p-b	e-e	v-w	x-x	c-c	w-m
s-e	d-f	n-n	y-g	k-b	n-o
l-r	q-r	f-l	s-s	i-l	f-l
r-t	p-q	t-n	r-r	j-r	e-s
l-n	s-o	s-h	n-n	v-n	h-h
c-o	m-w	s-o	s-f	o-o	i-f
k-o	r-r	d-d	s-s	c-c	r-n
s-d	l-l	e-e	b-b	s-o	f-f

DIRECTIONS

"In each of these boxes there are five (5) words. Find the first box. Put your finger on each one of the words in the first box."

"Look at the card I am going to show you." (Flash the card "my".)

"Put your finger on that word." (Be sure all find the word before you go on with the next word.) "Take your pencil and put an "X" on that word." (Show the children how to make an "X" by putting it on the blackboard.)

Have them find the second box -- be sure they all find the right box before the card is flashed.

"Now find this word in that box." (Flash the word "He").

Hold the word up before the children about five (5) seconds, then turn it down. If it is necessary show it the second or third time.

Help any child that seems confused. Do not do the work for him,

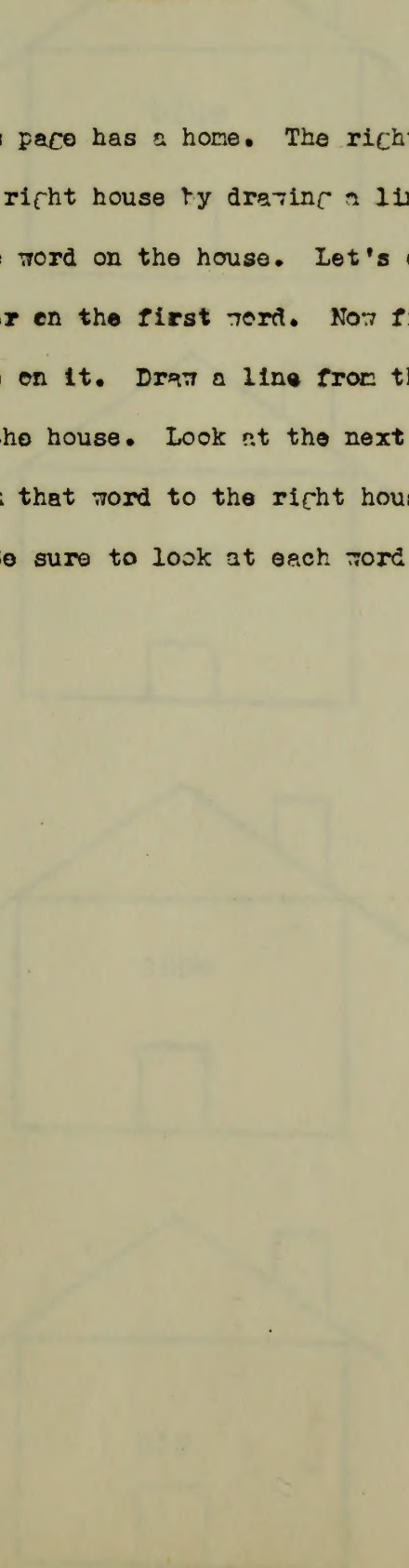
but draw his attention to the word or some part of the word. This is not a test but an exercise in matching.

be	my	of	up
to		do	
if	we	in	so
go	by	as	in
is		go	
us	he	do	we
or	to	up	we
as		be	
be	me	me	us
go	an	to	on
or		of	
do	so	no	so
in	if	it	in
to		if	
is	it	is	us
at	no	as	us
me		ax	
as	go	so	is

be	to	by	of	up
if	we	in	do	so
so	by	as	in	in
is	he	do	we	we
or	to	up	we	we
so	as	me	bo	us
so	or	an	to	on
do	so	no	of	so
in	if	if	in	in
is	to	is	if	us
at	no	as	us	us
as	me	so	as	is

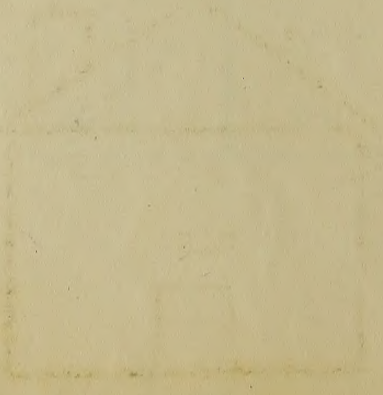
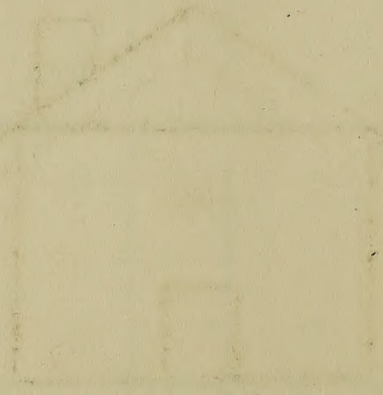
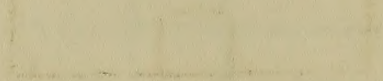
DIRECTIONS

"Each word on this page has a home. The right word is on the house. Put each word into the right house by drawing a line from the word in the box that looks like the word on the house. Let's do the first word together. Put your finger on the first word. Now find the house that has a word just like that one on it. Draw a line from the word under your finger to the word on the house. Look at the next word. Where does it belong? Draw a line from that word to the right house. You are to do each one in the same way. Be sure to look at each word carefully before you draw the line."

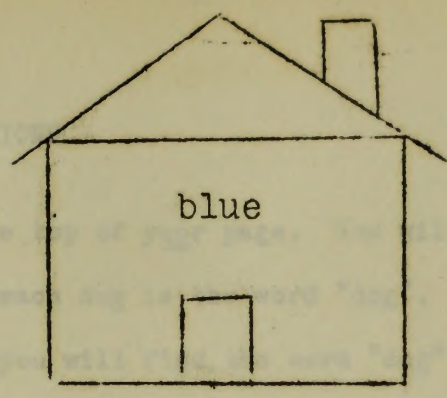


DIRECTIONS

"Each word on this page has a house. The right word is on the house.
Put each word into the right house by drawing a line from the word in the
box that looks like the word on the house. Let's do the first word to-
gether. Put your finger on the first word. Now find the house that has a
word just like that one next to it. Draw a line from the word under your
finger to the word on the house. Look at the next word. There does it be-
long? Draw a line from that word to the right house. You are to do each
one in the same way. Be sure to look at each word carefully before you
draw the line."

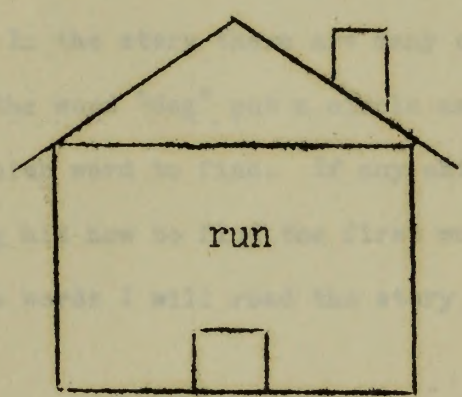


come
his
blue
run



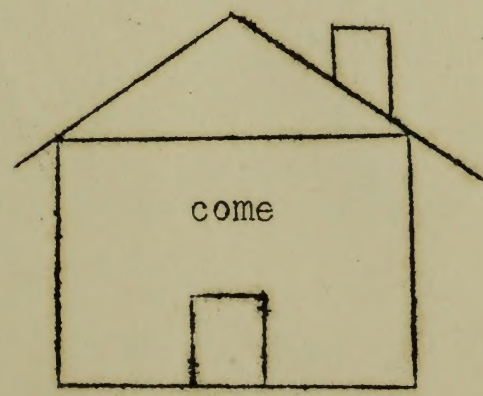
come
his
blue
run

come
blue
his
run



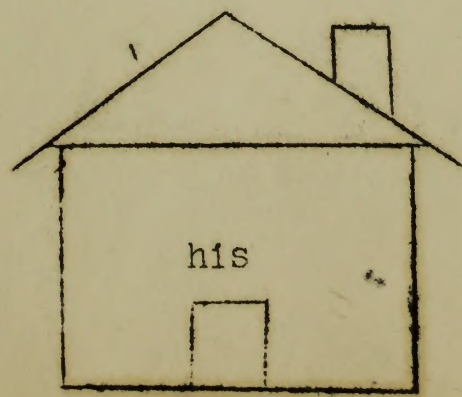
come
blue
his
run

his
blue
run
come



his
blue
run
come

blue
come
run
his

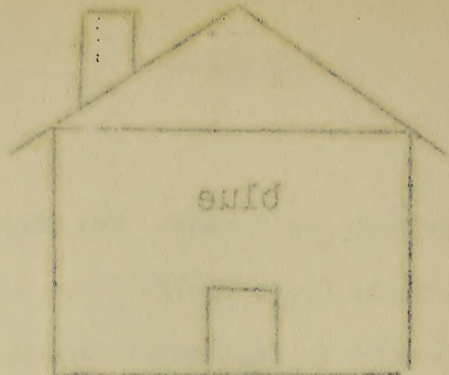


blue
come
run
his

come
his
run
blue

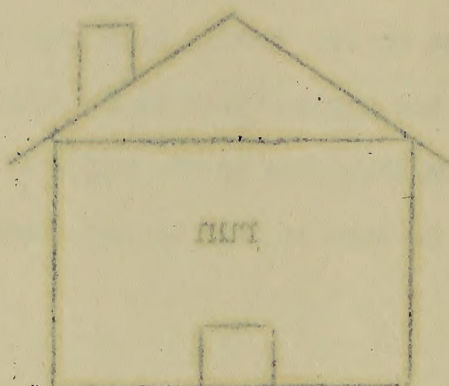
come
his
run
blue

come
his
blue
run



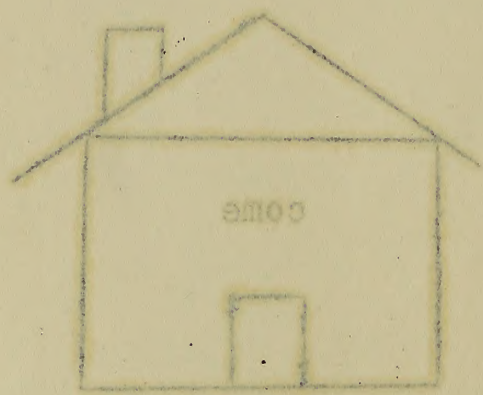
come
his
blue
run

come
blue
his
run



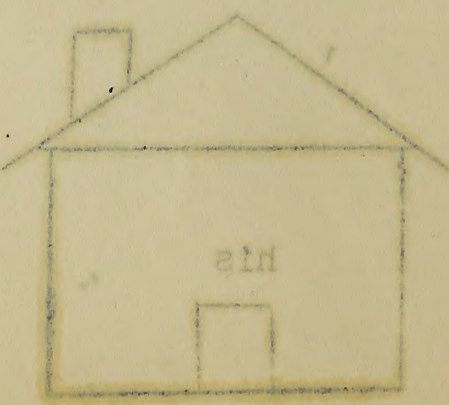
come
blue
his
run

his
blue
run
come



his
blue
run
come

blue
come
run
his



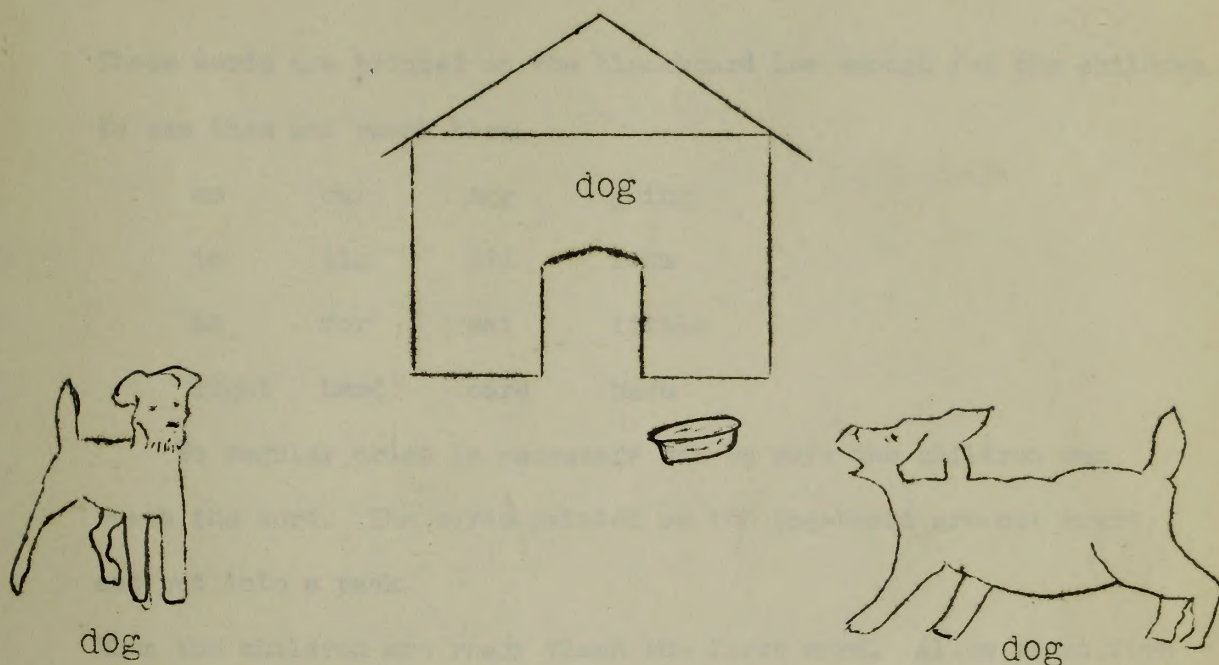
blue
come
run
his

come
his
run
blue

come
his
run
blue

DIRECTIONS

"Look at the top of yuor page. You will find the picture of two dogs. Under each dog is the word "dog". The little house is the dog house so you will find the word "dog" on it also. Look at each one of these words carefully so that you are sure you know just how it looks. In the story there are many of these words. Each time you find the word "dog" put a circle around it. (Be sure the children know which word to find. If any child needs help give it to him by showing him how to find the first word.) When you have finished finding the words I will read the story to you."



Once upon a time a little white dog went for a walk. He met a little black dog. The little black dog said, "Bow-wow, where is a little dog like you going at this hour?" "I am going to the dog house," said the little white dog. "My dinner is waiting for me at the dog house." "May I come too," said the little black dog. "Yes, you may," said the little white dog. So the little black dog and the little white dog went to the dog house for dinner.

DIRECTIONS

These words are printed on the blackboard low enough for the children to see them and reach them,

an	car	egg	going
in	big	did	from
an	for	eat	little
light	hand	care	have

No regular order is necessary but be sure the children can reach the word. The words printed on the tag-board are cut apart and put into a pack.

When the children are ready flash the first word. Allow about five seconds to pass then turn it down and call on some one in the group to find the same word on the board. The child may frame the word by putting his hands around it or he may point to it. Additional practice may be given by mixing the cards up and flashing them again. Not all of the words are flashed so the child must distinguish between the similiar ones.

Do not make the period too long so that the children lose interest. Ten minutes should be long enough to give at least two matchings for each word. Any word giving trouble should be flashed several times.

DIRECTIONS

11K

"Look at the first row of letters." Have the children put their finger on the first row so that all know where they are to work.

"Find the first letter in that row." "Put your finger on the first letter."

Now put your finger on another letter in the row that looks just like it. Now find another one. Have the children find all of the n's in the first row.

Now put the thin paper over this page. Make the first letter in the row. Now make just the letters in that row that look just like it.

When you finish that row do the same in the next row. Be sure to make only the letters that are like the first letter in each row.

m m s m l r m

l k t l h l r

t s t r t t n

b d p b h b d

n n m t n n o

c c o a c d c

f r f t f k f

m r l m e m m

r l h l t k

n t t r t s t

b d h d p b d

o n n t m n n

c b c d o c c

f k f t f r f

DIRECTIONS

Tell the children that on this page they will find some pictures with words underneath them. Those words tell what the picture is. For example have them find the picture of the pig. Then tell them the word under it says pig. Now have them find the picture of the cow. Tell them what the word is. Have them put their finger under the word cow. Now tell them that in the line of words in the middle of the page they will find two words that look just like the word cow. "Who can find them"? When they have found them have the children take their pencils and draw a line from the word under the picture to each of the words in the line. The next step is to find boy. In every case there are two words in the list to match with the word under the picture. Tell them that many of the words look almost alike so they must watch carefully before they draw the line.

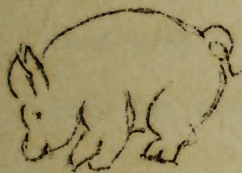
If some child has trouble help him to find the first word and then let him find the second one.



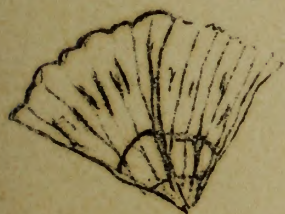
cow



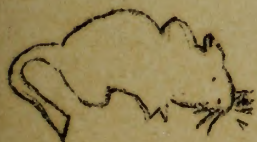
boy



pig



fan



rat

cat

boy

hen

dog

pig

rat

top

cow

cup

fan

cup

cow

cat

boy

hen

fan

dog

top

rat

pig

cup



hen



dog



cat



cup



top

14+K

DIRECTIONS

Put the following words on the black board. cone, crow, cone and some. Have the children find the two words that look alike. When they have found them have someone put a circle around the two words. Tell them next that in each of the boxes on their paper there are two words that look just alike. They are to find them and put a circle around it. Only two words in each box are just alike.

is

in

is

an

to

us

is

is

as

to

in

us

pen

boy

hen

fan

girl

he

box

box

her

pen

boy

hen

fall

down

fell

barn

done

fall

fall

dong

full

down

done

full

clown

horse

want

down

house

went

brown

house

wind

clown

home

went

16 K

DIRECTIONS

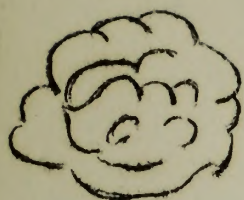
Mother sent Jack to the store to buy the vegetables for dinner.

He saw many things in the store. Some were vegetables some were not.

Look at the pictures on your page. Find the pictures of a vegetable that Jack bought. (Be very sure that the children know which are the vegetables. Have them find each one before they begin any of the work.)

The name of each vegetable is under it. In the space below the pictures are the names of the vegetables. (Have the children find the place by putting their finger on the space where the words are.) Look at each word. If it is the name of the vegetable put a circle around it. Use your pictures and words at the top of your page to help you. Be sure to find just the names of the vegetables Jack bought.

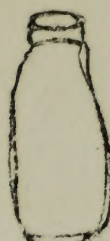
As the children finish they may be directed to put a circle around each letter in the line that is like the letter in the box at the beginning of the line.



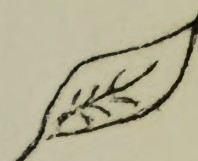
cabbage



carrots



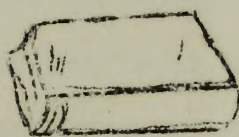
milk



leaf



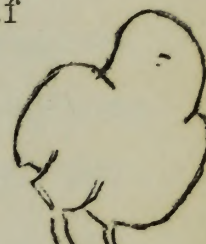
pumpkin



book



corn



chicken

milk	pumpkin	corn	leaf
cabbage	milk	chicken	carrots
book	pumpkin	carrots	corn
corn	cabbage	chicken	carrots
leaf	pumpkin	carrots	corn
cabbage	book	corn	milk

h	c	f	r	h	t	h	m	h	h	r	c	h	h
b	s	b	r	b	s	f	b	t	b	b	h	c	r
s	s	o	t	m	s	s	o	s	n	s	s	n	s
m	t	o	m	r	m	h	m	o	t	m	t	m	s

17K

Third Week

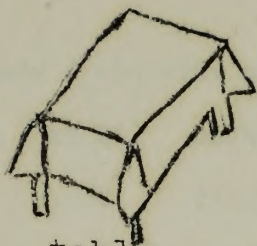
DIRECTIONS

Give each child his paper. When all are ready have them look at the pictures at the top of the page. Have them name each picture and as they do so draw their attention to the word under it. Tell them that the word under the picture is chair etc.

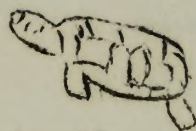
The next step is to have them decide what things belong in the house. These four things were meant to be found - chair, table, fan, and clock, but if the children name turtle and fish let them find these words also. Do the first two or three words with them to make sure all of the children understand what is wanted of them.



chair



table



turtle



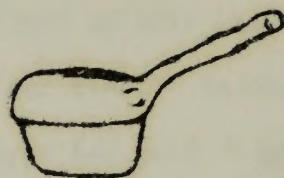
hen



fish



clock



pan



horse

chair

pan

fish

horse

fish

horse

pan

table

horse

turtle

turtle

hen

chair

hen

clock

pan

table

table

table

fish

pan

chair

chair

clock

hen

fish

horse

turtle

horse

clock

fish

chair

clock

horse

table

turtle

horse

chair

hen

clock

18K

DIRECTIONS

Put these four words on the blackboard

right might stem straw

sight flight sting still

Have the children find the part of each word that look just alike. (accept only the part "ight" so that they get the correct sight of the word or part the first time.) As they find the parts put a circle around it. After ight has been found go on to the next four words and do the same thing with them.

Pass out the papers to the children. Tell them to look at the first box with four words in it. Tell them to do the same with those words that was done on the blackboard. Leave the words on the board so that the children may refer to them if need be. Help any who seem to have trouble.

ball	tall	sun	sunshine ^{17K}
fall	call	sunny	Sunday
ohair	church	this	then
chicken	children	that	three
where	what	ring	sing
when	who	bring	thing
train	tramp	strong	strip
tray	track	string	straw
slide	sliding	story	floor
slid	hide	more	porch
little	bit	mill	milller
title	sitting	still	hill

ball	ball	sun	sunshine
fall	call	sunny	Sunday
chair	church	this	then
chicken	children	that	three
where	what	ring	sing
when	who	bring	thing
train	tramp	strong	strip
tray	track	string	stew
slide	sliding	story	floor
slid	hide	more	porch
little	bit	mill	mill
title	sitting	still	hill

20K

DIRECTIONS

Put the following words on the blackboard:

fly go

run you

sing now

Have some child in the group point to the last letter in the first word. Now have a child find a word in the other column that begins with that same letter. Draw a line between the two words. Do the same with each of the other words. When this is finished give the children their papers and have them do the same thing with the words in the boxes.

If a child seems confused give him extra help as he works on his paper.

DIRECTIONS

Put the following words on the blackboard:

to	fly
you	run
now	sing

Have some child in the group point to the last letter in the first word. Now have a child find a word in the other column that begins with that same letter. Draw a line between the two words. Do the same with each of the other words. When this is finished give the children their papers and have them do the same thing with the words in the boxes.

If a child seems confused give him extra help as he works on

his paper.

21A

can	when	touch	guess
coat	nice	train	here
cow	that	thing	now
back	day	over	round
bird	yes	of	time
boy	know	out	fire
eggs	good	did	need
eye	eat	do	dress
egg	store	down	off
fall	more	will	street
father	last	was	night
from	right	when	last
please	you	right	nest
plant	every	round	too
pretty	town	rain	doll

214

can	when	touch	guess
cost	nice	train	here
cow	that	thing	now
back	day	ever	round
bird	yes	of	time
boy	know	out	fire
eyes	good	did	need
eye	eat	do	dress
egg	store	down	off
fall	more	will	street
father	last	was	night
from	right	when	last
please	you	right	nest
plant	every	round	too
pretty	town	rain	doll

22K

DIRECTIONS

Some of the words in the boxes on the paper are alike others are not. Tell the children to look at the first two words in the first box. Ask the children whether the words are alike or different. If the words are alike tell them to put an "s" on the line between the words. If the words are different tell them to put a "d" on the line. Do the first two or three words with the children to give them security in the beginning. Show them how to make the letters to be used.

23K

rat _____ rat

cow _____ dog

pig _____ pig

dog _____ cat

boy _____ boy

fly _____ fly

is _____ as

fun _____ fun

hand _____ hair

go _____ so

nut _____ nut

nest _____ nest

box _____ fox

age _____ ago

can _____ can

all _____ all

ask _____ all

too _____ to

away _____ away

beet _____ beat

fly _____ flip

be _____ bee

see _____ see

black _____ brown

band _____ bang

bark _____ dark

down _____ town

bath _____ bat

coat _____ coat

clown _____ clown

go _____ goes

nose _____ now

car _____ car

apple _____ apple

fish _____ fish,

come _____ come

clown clown
coat coat
bath bath
down down
dark dark
band band
too to
ask all
all all
can can
see see
box box
fly fly
boy boy
dog dog
pig pig
cow cow
rat rat

come come
fish fish
apple apple
car car
nose nose
go go
black black
see see
be be
fly fly
best best
away away
nest nest
nut nut
go go
hand hand
fun fun
is is

DIRECTIONS

24K

Put these words on the blackboard: (rat cat sat hat) Hold up the card with the word "hat" on it. Have the children look at the word for about five seconds. Tell them the word is hat then turn it down and have some one in the class find the word among the ones on the board. When the word is found have the child put a circle around it. If further matching is desired have the child hold the card under the word found.

Have the children find the first line on their papers. Be sure they find the right one by having them show where it is either by putting their finger on it or pointing to it. Hold up card number I for five seconds then turn it down and have the children find the word and put a circle around it. It might be well to tell them that the words look very much alike and that they must watch closely.

Do each row the same way. If some child cannot find the word flash it a second time. This is not a test but a practice lesson.

cat	cod	cot	sat
on	an	in	it
is	as	us	in
all	ill	ale	eel
are	end	and	add
big	bad	boy	pig
but	boat	bird	bird
tan	hand	hill	house
wagon	puppy	rabbit	kitten
more	morning	mother	make

Take out your box of colors. Show the children a red color and say,
 "Find your red color. Put it at the top of your desk." Do the same with
 each of these colors - blue, green, and orange.

"Look at the top of your page find the letter that looks like this "A".
 Put it on the board. Be sure that each child finds the letter. Tell the
 children to put a red line through the letter. Put a green line through the
 letter that looks like this. Put the "S" on the board and have the children
 find it.

Put a blue line through the letter that looks like this "T".

Put an orange line through the letter that looks like this "M".

Tell the children:

"On the lines below are some words. Every time you find the letter "A"
 put a red line through it." "When you have found all the "A's" look at the
 next letter and find those. Be sure you use the same color that is on it."

"If you forget what color to use for the letter look up at the top of
 your page to see what color is on it. Find all of one kind before you look
 for another."

Handwritten:
 + ~~some~~ ~~the~~ ~~words~~

a . . s . . t . . m

band a sand to mother

boy can that umbrella tall

morning jump am sat tap

farm eat arm bat mat

match mamma paint and . bath

tree take same make basket

DIRECTIONS

28K

Tell the children that on this page they will find some pictures with words underneath them. These words tell what the picture is. For example have them find the picture of the baby. Then tell them the word under it says, "baby." "Look at it carefully. In the middle of the page you will find two words just like that word. Draw a line from the word under the picture to the words just like it in the middle of the page." Be sure the children find the right words.

If some child has trouble help him to find the first word and then help him to get started with the second.



baby

hammer

clown

star

bear

baby

leaf

rabbit

fish

spool

duck

squirrel

lamp

bird

leaf

baby

bear

star

clown

hammer

bird

lamp

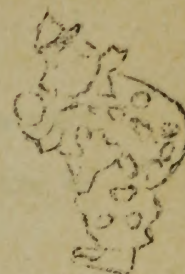
duck

fish

rabbit



bear



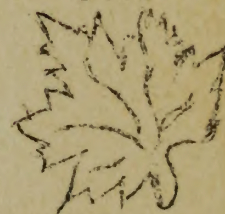
clown



duck



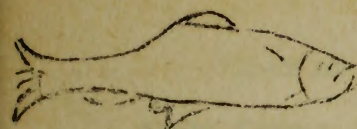
star



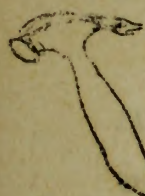
leaf



spool



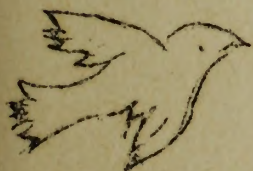
fish



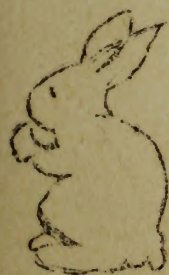
hammer



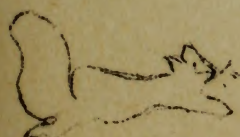
lamp



bird



rabbit



squirrel

2.9K

DIRECTIONS

"Look at the first row of letters". Have the children put their finger on the first row so that all know where they are to work.

"Find the first letter in that row. "Put your finger on the first letter. Now find all the letters in that row that are like this first one. Put the onion skin over it. Take your pencil and make the letters that are like the first one."

a c o a g a o

g g h p g d g

h d b h r h h

d b d o d d p

p p b d g p p

b b d o b g b

31K

DIRECTIONS

Put those words on the board:

town

train

trick

fly

mother

top

Ask the children to look at the first three words." "Which word does not begin like the other two." Draw a line through that word. Now look at the next three words. "What word does not belong in that group?" Draw a line through that word."

"On your paper you will find groups of words like the ones on the board. In each group you are to find the one word that does not belong and draw a line through it."

Give any child help if he needs it.

30K

fly	fish	kite	kitten
flip	house	kill	king
town	flower	hill	bird
egg	can	down	brother
are	all	brown	
after	and	black	blue
run	rest	lion	lie
now	ring	like	little
rat	me	if	ill
me	mother	call	cage
my	window	apple	catch
nest	milk	chair	end
go	clown	gone	pig
down	give	pony	jump
girl	gone	pail	quick

DIRECTIONS

33K

"Look at the word at the top of the first box. The last two letters in the word are "l" and "n". Look at the next word. Does that word end like the top word? Have some child answer that question. Put a circle around that word. Now look at the next word. Have the children tell you whether it ends like the top word.

Now tell them to look at each word in the box. If it ends like the top word put a circle around it. If not leave it alone. Finish the first box then go on to the next box, look at the top word and find the words that end like it.

Help the children if they need it.

34K

	<u>tin</u>
fin	grin
ran	pen
bin	tan
then	tin
thin	line
pin	sin

	<u>cat</u>
fat	cap
met	tap
mat	that
sat	pat
flat	can
set	not

	<u>hop</u>
stop	sat
pot	pop
hot	put
flop	hop
mop	hen
crop	cop

	<u>sit</u>
flit	bit
rit	kit
met	bet
knit	hit
sat	bat
set	mit

35K

Fourth Week

DIRECTIONS

This page tells about Billy and Sue going to the circus.

These are some of the things they saw at the circus.

(Here the teacher and pupils may talk about the different pictures.)

Now in the story you will find each one of these words.

When you find one put a circle around it. When you have found them I will read the story and decide on a name for it.



elephant



bear



horse



cowboy



clown



dog



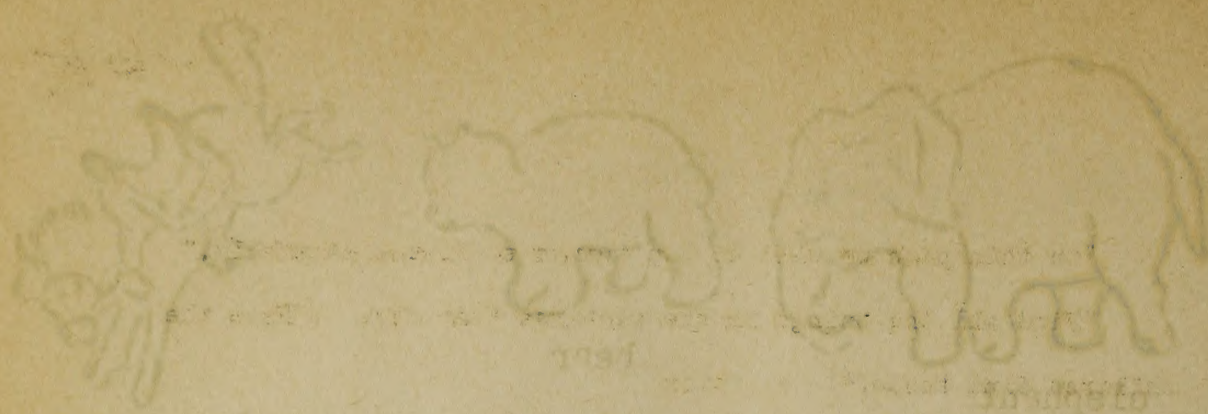
balloon

One day Father took Billy and Sue to a Circus. The first thing they saw was a funny clown. He had a big smile and a little hat. Sue was afraid when she saw the big black bear. Billy had a lot of fun watching the cowboy and his horse that could do tricks.

Father bought some peanuts so they could feed the elephant.

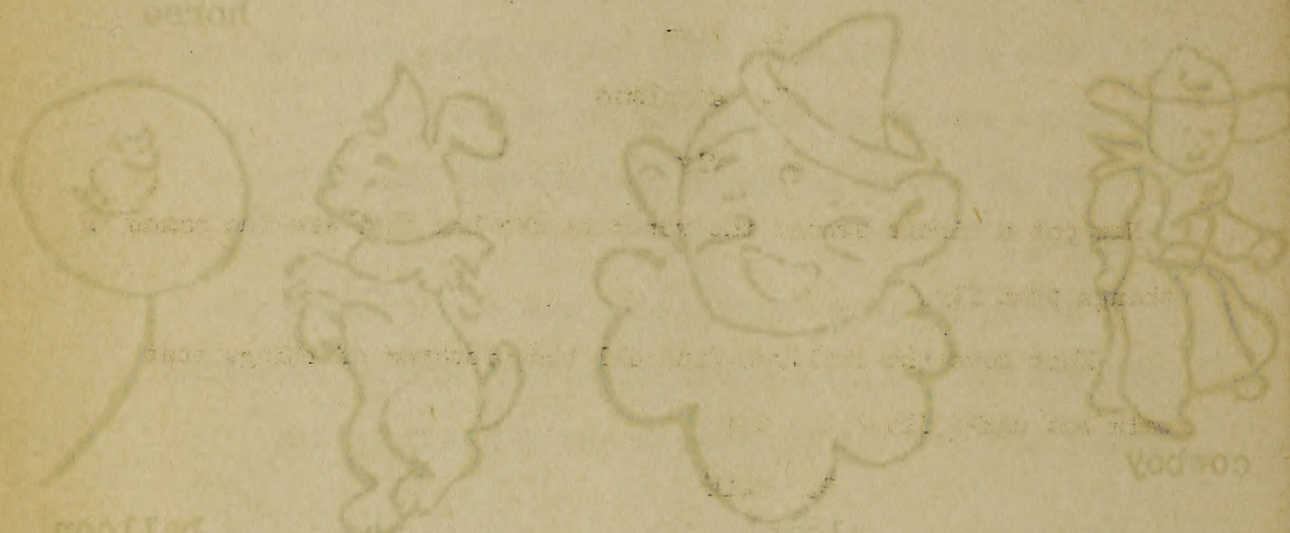
Sue said she liked the little dog that could dance on his back feet the best.

When it was time to go home Father bought Billy and Sue a balloon.



horse

bear



balloon

dog

cowboy

One day father took Billy and Sue to Circus. The first thing they saw was a funny clown. He had a big smile and a little hat. Sue was afraid when she saw the big bear. Billy had a lot of fun watching the cowboy and his horse. That could do tricks. Father bought some peanuts so they could feed the elephant. Sue said she liked the little dog that could dance on his back feet too best. When it was time to go home father bought Billy and Sue a balloon.

INSTRUCTIONS

36K

"On this page we will do two things so listen carefully."

"Find all the things in the pictures that fly. ("Have the children find these.")

1. kite
2. bird
3. airplane
4. fly

Now put a circle around the words in the box that are the names of things that fly.

Next have the children find all the pictures of things that walk but can't fly.

1. dog
2. walk
3. pig

Draw the children's attention to the fact that house is not used.

Put an X on the names of those things.

Tell the children to use the pictures at the top of the page to help them.

36K

"On this page we will do two things in Italian handwriting:
First all the letters in the picture that are 'f' and 'ff'.

Children that know 'f' 1. 1. 1. 1. 1.

2. 2. 2.

3. 3. 3.

4. 4. 4.

Now get a pencil and write the words in the box that are the same as

those that are.

Now have the children find all the pictures of things that

write the word 'f' 1. 1. 1. 1. 1.

2. 2. 2.

3. 3. 3.

Now the children's attention to the fact that 'f' is not used.

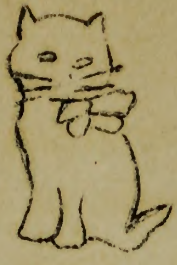
Put an 'f' on the names of these things.

Tell the children to use the pictures on the top of the page

to help them.



dog



cat



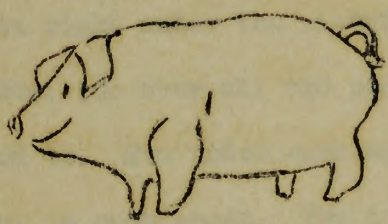
house



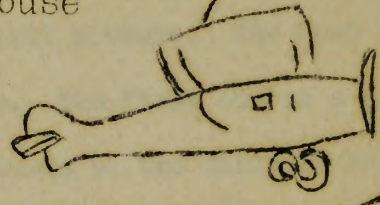
kite



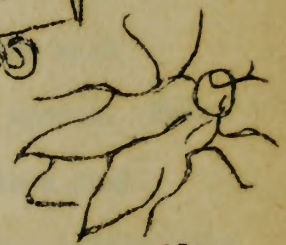
bird



pig



ai rplane



fly

bird	cat	house	fly
airplane	dog	rabbit	house
dog	pig	bird	fly
house	cat	airplane	kite
pig	fly	house	kite

37K

DIRECTIONS

What animal do you see in the first picture. The name of the animal is right under the picture. The first one is a pig the next a cow etc. (Go over all the pictures so the children know what the word is. Now under each word are three empty spaces. Make the word once in each space. Try to make each letter look just like the one above it. If any child has trouble making a letter help him by showing him how to make it either on the board or on a piece of paper on his desk.

111

111

That animal is not one in the first place. The name of

the animal is right under the picture. The first one is a pig the

second a cow etc. (Go over all the pictures to the children and

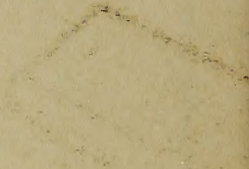
show the words for the animal and the words for the animal.

The word used is not good. Try to make each picture look just

like the one above it. If any child has trouble making a letter help

him by showing him how to make it either on the board or on a piece

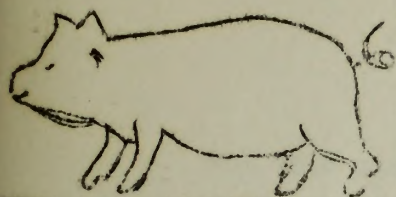
of paper on his desk.



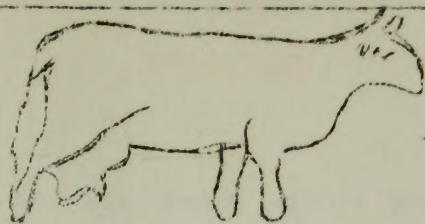
111

111

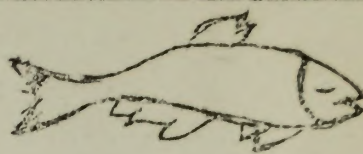
111



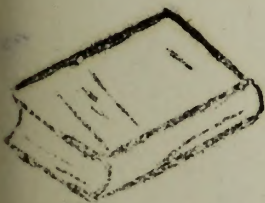
pig



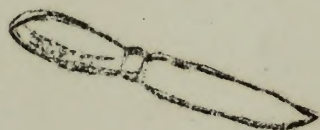
cow



fish



book



knife



rabbit

38K

DIRECTIONS

"On this page we will play a game of tag. Look at the C (name) in the middle of the first box. That C (name) is going to catch all the words that begin with the same letter. Draw a line from the "c" in the middle to each word that begins with the same letter on each side of the box." Don't let the "c" catch you by having him catch the wrong word.

a		eat
go		at
all	a	come
and		are
can		am

big		how
can		be
did	b	out
bird		play
got		blue

too		from
for		four
has	f	this
fish		like
know		floor

40K

DIRECTIONS

A. 1. Draw a line from the word by the picture to the same word in the box.

2. Now what two pictures would go together? We say door and window go together because they are part of a room. Knife and fork because we eat with them. Table and chair go together. Draw a line between the words in the box that go together. Use your pictures to help you.

When you finish the top of the page go on to the bottom of the page and find all the letters or words that are alike in each row. Put a circle around each one.



ball



girl

foot

bat

hat

boy

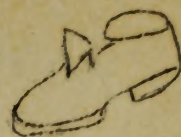
ball

coat

girl

shoe

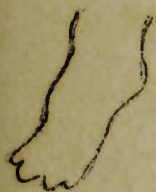
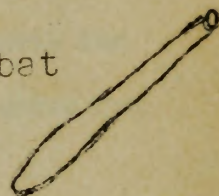
shoe



coat

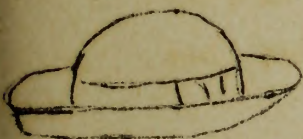


bat



foot

boy



hat

a	a	e	a	o	a	e	a
do	do	to	do	do	so	do	to
can	ran	can	tan	can	can	fen	can
down	clown	down	done	down	town	down	
what	that	what	when	when	what	flat	

Sixth Week

DIRECTIONS

41K

"On this page we will play a game of tag. Look at the "A" (name) in the middle of the first box. That "A" (name) is going to catch all the words that begin with the same letter. Draw a line from the "A" in the middle to each word that begins with the same letter on each side of the box." Don't let the "A" catch you by having him catch the wrong word.

can
and
car
our
chair

c

other
cake
eat
could
do

nice
much
right
must
mother

m

more
hand
mine
now
milk

done
here
dress
boat
daddy

d

good
drink
play
door
because

got
picture
basket
people
blocks

p

put
day
pretty
place
quiet

45K

DIRECTIONS

Look at the three pictures at the top of the page. The first picture is a _____ (Ask the children what it is) Yes, it is a boat. The word under the picture is "boat." Take your pencils and make the word on the lines under the word. When you finish that word go to the next word.

As the children finish the top of the page tell them to find all the words in each line that looks just like the first word under the picture.

Give children any help needed.

There is the first of the set of the first. The first
picture is a _____ (the first picture is the first. It is a
_____ the first picture is the first. The first picture is the first.
and when the word on the first under the word. When you think
that word on the first word.
In the picture finish the top of the first word then is
that all the words in each line that finish just like the first
word when the picture.
The picture may help you.

10



boat

tree

ball



ball

ball bank bat balls bath

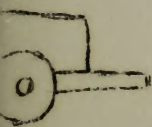
bern ball ball ball bake



house

horse house home hose horse

house horn hook house house



cart

cars cart carch card cart

case cart care cart cats



squirrel

squeak squirrel squash squirrel

squeeze squirt squirrel squirrel

44K

DIRECTIONS

"On this page we are going to do the work together.

Look at the pictures at the top of your paper." Find a picture of something we eat." Let the children find - 1. cake

2. fish

3. corn

4. apple

They may find "pig" and "bear" which will be correct also. Now have them put these words under the word "Eat" at the bottom of the page.

As they finish this tell them to find all the animals and put those words under "Animals." If some of the words are repeated such as "bear" and "pig" it is correct.

The last step is to do the same with the names of toys.

Again if some words are repeated do not call them wrong.

111

REMARKS

111

Now this page we are going to do the work together.

Look at the pictures at the top of your paper. Find a

picture of something we eat. Let the children find - 1. corn

2. fish

3. corn

4. apple

Now they find "pig" and "hens" which will be correct also. Now

have them put these words under the word "pig" at the bottom of the

page.

As they finish this tell them to find all the animals and

put those words under "Animals". If some of the words are repeated

such as "corn" and "pig" it is correct.

The last step is to do the same with the names of trees.

Again if some words are repeated do not call them wrong.

DIRECTIONS

145K

Today we are going to see how many words you can match correctly.

You have more words than I have, so some of them you won't find. Be sure you find the right words.

I will show you a word, look at it carefully then find the same word on your paper and put an "X" on the word.

(Show the word 5 sec., and turn it down.)

The words to find will be around the edge of the card.

46 R

engine

blocks

into

kind

only

doing

church

fast

hard

room

small

airplane

Put the following words on the board,

inside
something
today
sailboat

47K

"Look at the first word in the column. The word is "inside."

There are two small words in this word. They are "in" (put on board) and "side" (put on board apart from "in"). Do the same with each of the words, so they look like this: -

some	boat
in	day
sail	thing
to	side

Now have the children draw a line from one part of the word to the other to show the word.

Tell the children that their papers are just like the work on the board. They are to draw the line from one word to the other.

Show them how to do the first one by doing it with them.

If some child needs extra help work with him further.

45/4

today
 something
 sailboat
 playhouse
 outdoors
 inside
 everything

into
 everybody
 bluebird
 birthday
 baseball
 anything
 afternoon

in thing
 some side
 to house
 sail thing
 out day
 every boat
 play doors

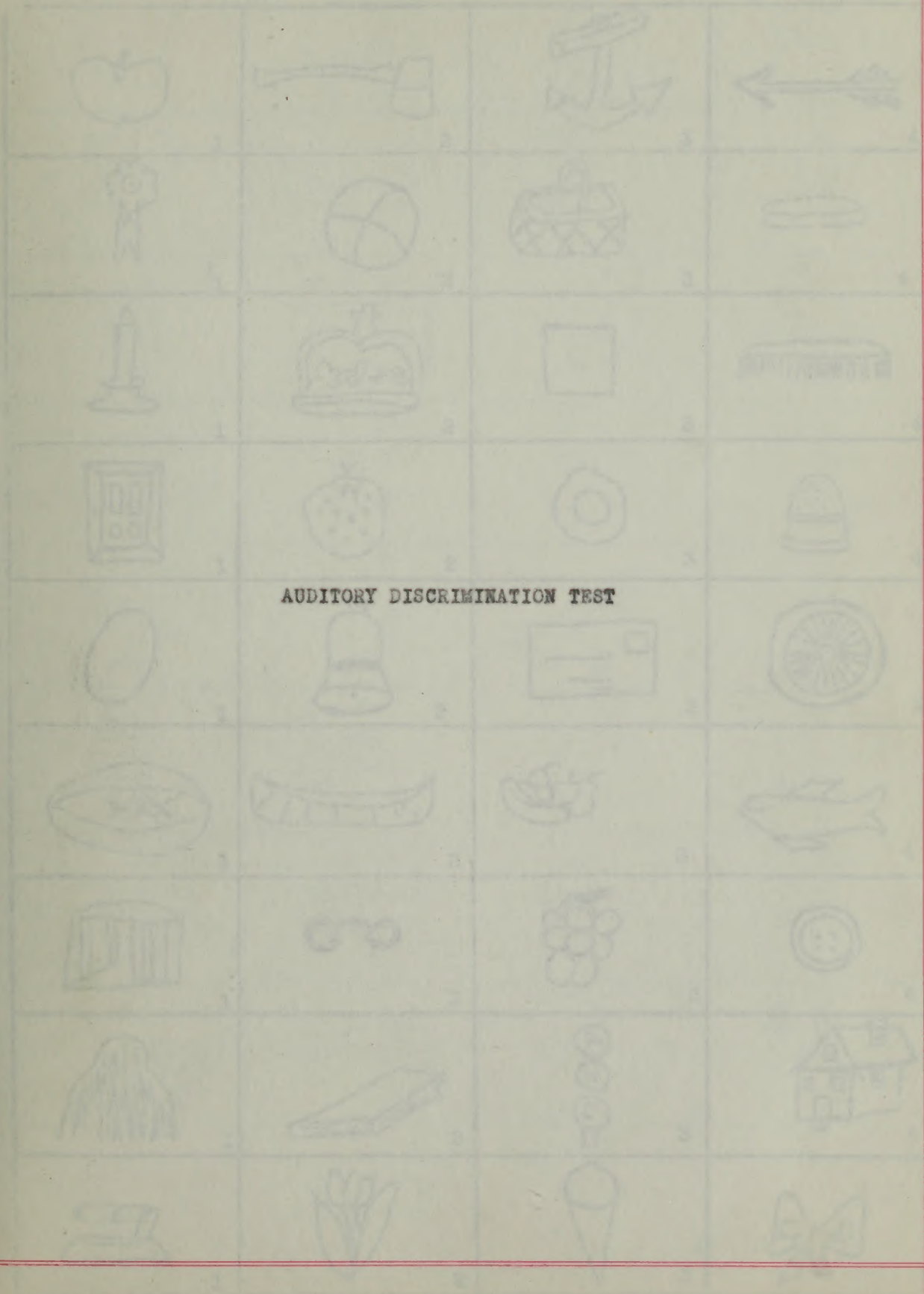
in body
 every to
 blue bird
 birth thing
 base noon
 any ball
 after day

APPENDIX B**ORIGINAL TESTS**

ADDITIONAL DISCRIMINATION TEST

2. LITERATURE

1. GENERAL PRINCIPLES

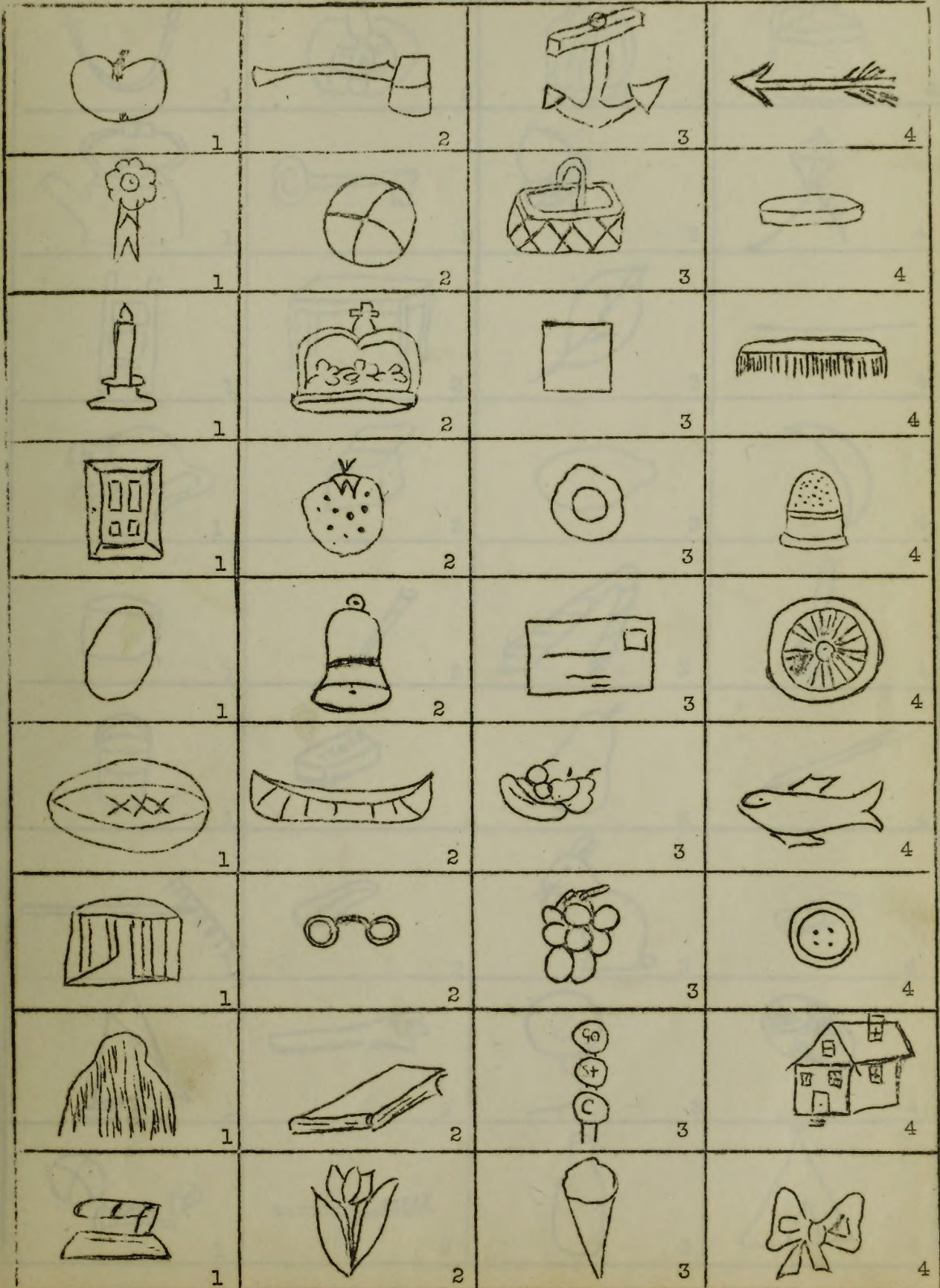


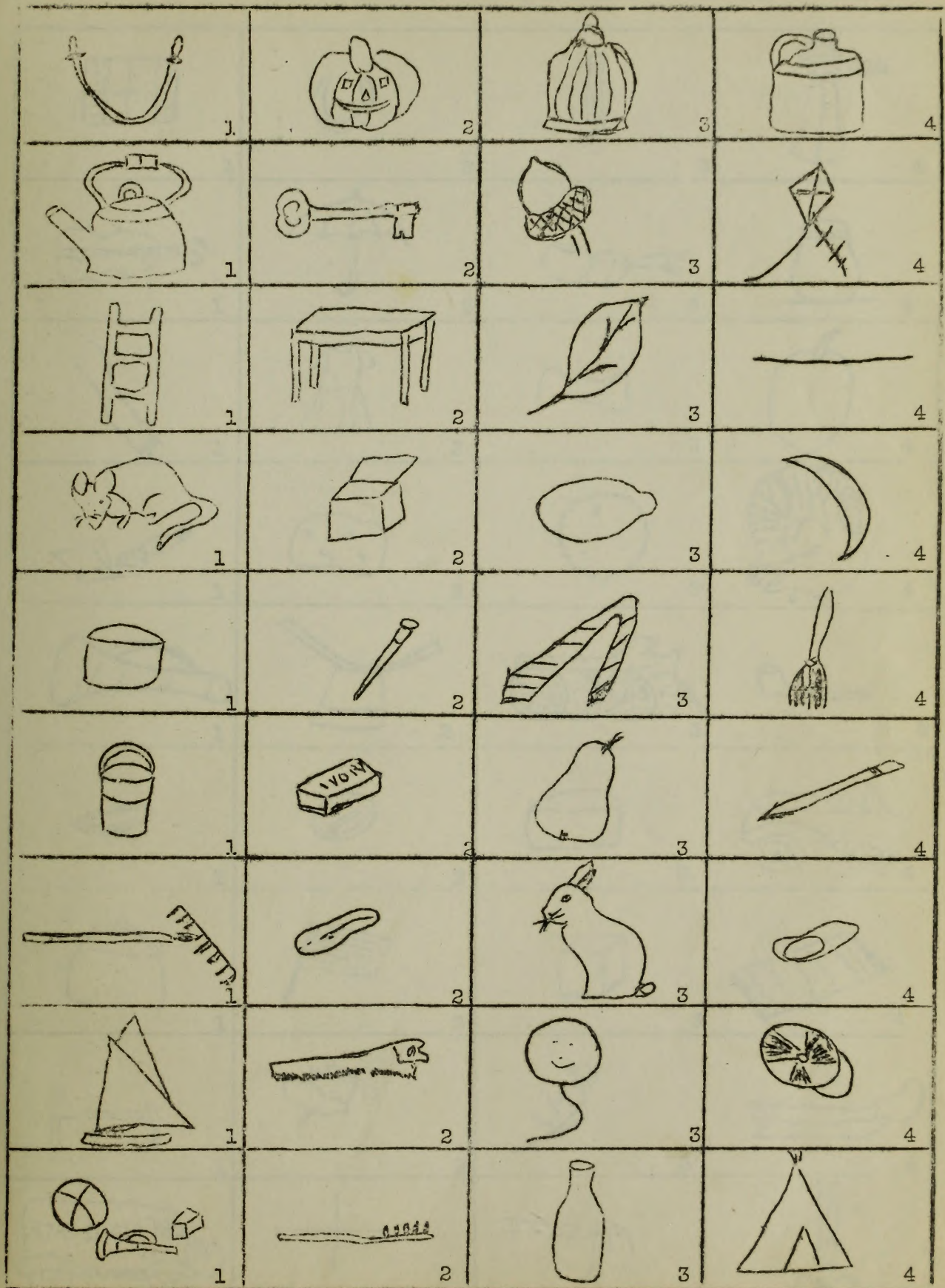
THE MONTAGNARDI TEST

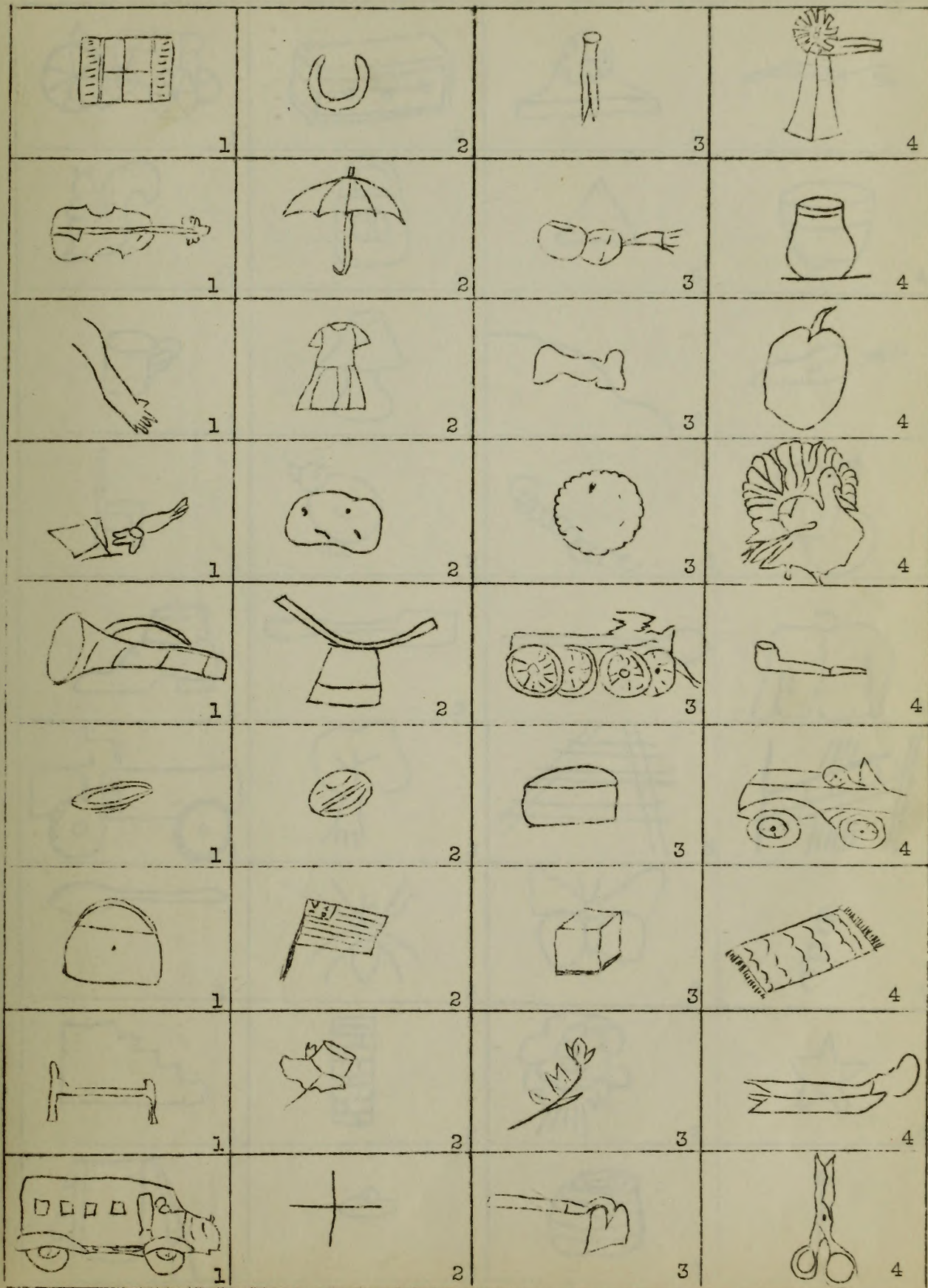
Name _____

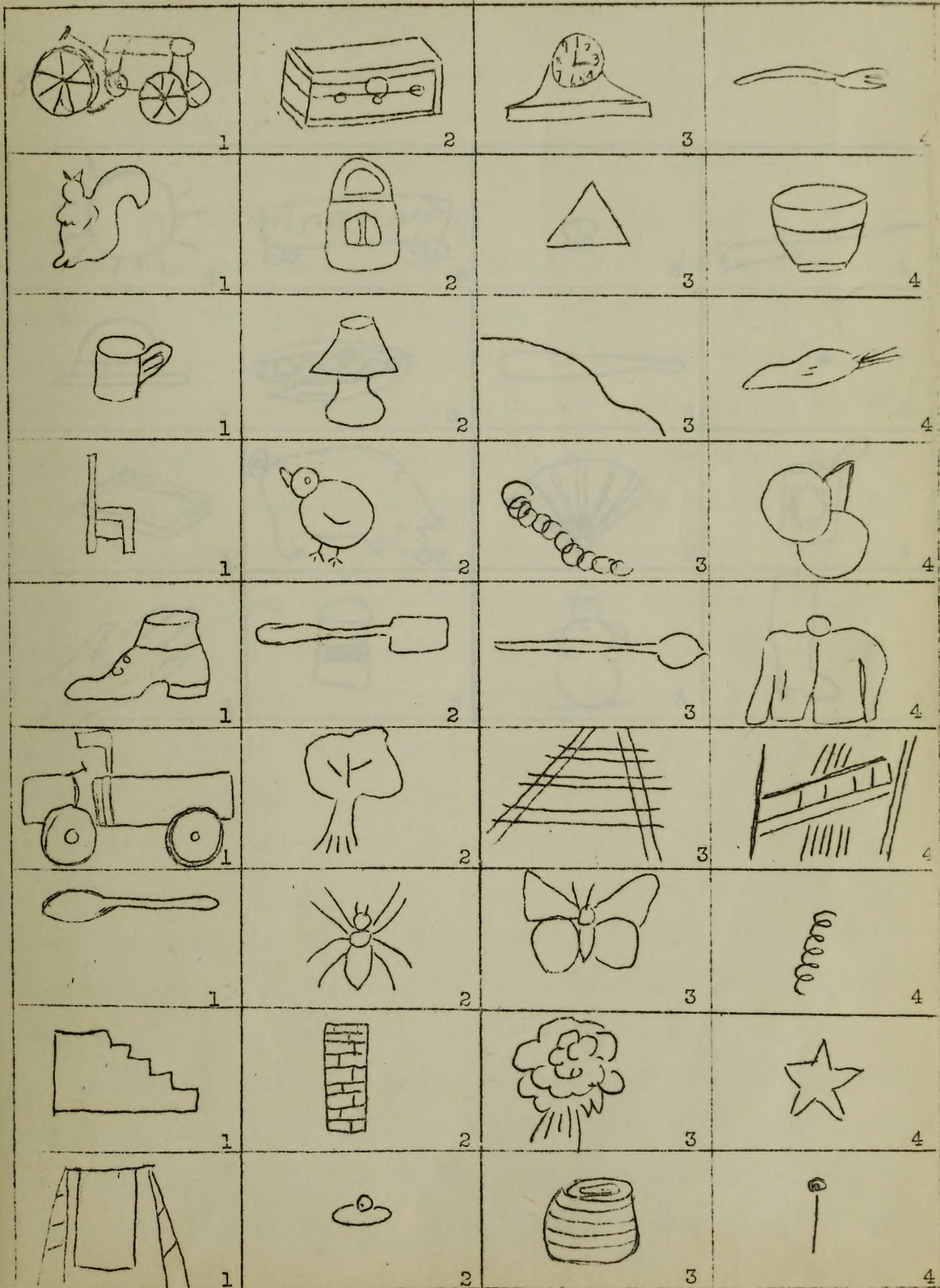
Date _____

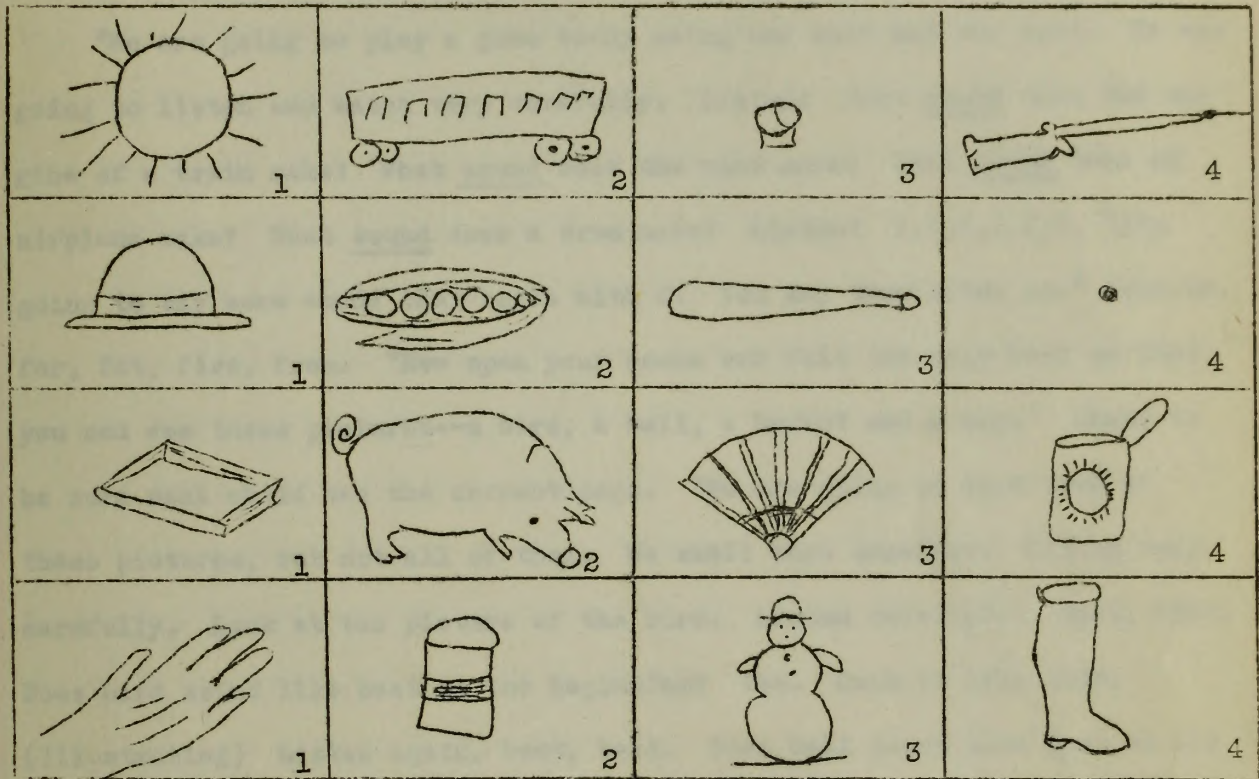
School _____











DIRECTIONS FOR GROUP AUDITORY TEST

Each child needs a copy of the test and a pencil.

Preliminary Exercise

"We are going to play a game today using our ears and our eyes. We are going to listen and watch very carefully. Listen! What sound does the engine of a train make? What sound does the wind make? What sound does an airplane make? What sound does a drum make? Listen! F,f,f,f,f,f. "I'm going to say some words that begin with f. You say them after me." Dictate: for, fat, fire, from. "Now open your books and fold the page back so that you can see these pictures--a bird, a ball, a basket and a boy." Check to be sure each child has the correct page. "We are going to mark some of these pictures, but not all of them. We shall work together. Listen very carefully. Look at the picture of the bird. Listen carefully. Beet, bird. Does bird sound like beet at the beginning? Yes. Mark it like this. (Illustrating) Listen again, beet, ball. Does ball sound like beet at the beginning? Mark it." Continue the same way with the other two words in the line. Check carefully to be sure all are following the directions.

"Now look at the next line! We are going to mark the things in this line that begin like cake. Listen! Cake, candle. Does candle sound like cake at the beginning? Yes, so we shall mark the candle. Listen, cake, cat. Shall we mark the cat? Yes, mark the cat. Listen, cake, man. Does man sound like cake at the beginning? No. We won't mark man."

"Look at the next line. This time we shall mark the things that begin like dance. Listen--dance, dog. Do they sound alike at the beginning? Yes, so we shall mark the dog. Listen, dance, door. Do they sound alike at the beginning? Yes, mark the door. Listen carefully--dance, table. Will you

mark the table? No. Listen, dance, duck. Will you mark the duck? Yes, mark the duck."

"Look at the next line. We are going to mark the things in this line that begin like father. Listen--father, football. Does football begin like father? Yes, mark the football. Listen carefully--father, canoe. Will you mark the canoe? No. Listen again--father, fish. Will you mark the fish? Yes, mark the fish. Listen, father, key. Will you mark the key? No."

"Look at the whole page. Did you mark every picture? No. Did you mark three pictures in every line? No. Sometimes we mark four pictures in a line, sometimes we mark two, and sometimes we mark three."

"Turn your page and find the picture of the garden. We are going to do this whole page and I'm not going to help you any more. Be sure to listen carefully and mark only the pictures with names like the words I say. Listen carefully and watch the pictures". Give no more help. Say the word each time before the name of the picture.

Page 1, Beginning sounds

- Row 1, go--garden, goat, gate, button
- " 2, hammer--hat, book, signal, house
- " 3, jello--jumprope, jack-o-lantern, cage, jug
- " 4, like--ladder, telephone, leaf, lady
- " 5, mother--mouse, box, lemon, moon
- " 6, name--next, night, nail, broom
- " 7, paint--pail, Santa, pear, pencil
- " 8, red--rake, rabbit, flower, rooster
- " 9, sing--sailboat, saw, balloon, cap

Page 2, Beginning sounds

- Row 1, take--toy, toothbrush, daisy, tent
- " 2, wait--window, horse, cow, windmill
- " 3, very--violin, umbrella, vegetables, vase
- " 4, chop--chair, chicken, chain, cherries
- " 5, shake--shoe, sled, shovel, ship
- " 6, true--truck, tree, train, broken
- " 7, spell--spoon, spider, butterfly, spill
- " 8, stamp--stairs, chimney, rose, star
- " 9, Practice row for final sound. Work together.
farm--arm, dress, barn, drum

GROUP TEST FOR AUDITORY DISCRIMINATION

"Now we are going to mark the ones that sound alike at the end. Listen carefully."

GRADE 1

Page 3, Final sounds

- Row 1, early--candy, potato, cooky, turkey
 " 2, fern--horn, clown, wagon, pipe
 " 3, start--carrot, plant, bread, car
 " 4, dog--bag, flag, tub, rug
 " 5, crowd--bed, kite, bud, road
 " 6, grass--grapes, scissors, hoe, duck
 " 7, trick--clock, truck, tractor, fork
 " 8, girl--squirrel, look, hill, bowl
 " 9, peep--cup, lamp, face, bat

Page 4, Final sounds

- Row 1, wing--swing, king, string, pin
 " 2, run--sun, ear, bun, gun
 " 3, sat--mat, peas, bat, nut
 " 4, man--pan, pig, fan, can
 " 5, grand--hand, band, swim, boot

Score

Beginning consonants _____

Beginning blends _____

Final consonants _____

Rhymes _____

Total _____

"Now we are going to visit the area that is called the 'L' area."

"L' area."

Page 3, final remarks

- Row 1. early--early, early, early, early
- 2. late--late, late, late, late
- 3. early--early, early, early, early
- 4. late--late, late, late, late
- 5. early--early, early, early, early
- 6. late--late, late, late, late
- 7. early--early, early, early, early
- 8. late--late, late, late, late
- 9. early--early, early, early, early
- 10. late--late, late, late, late

Page 4, final remarks

- Row 1. early--early, early, early, early
- 2. late--late, late, late, late
- 3. early--early, early, early, early
- 4. late--late, late, late, late
- 5. early--early, early, early, early
- 6. late--late, late, late, late
- 7. early--early, early, early, early
- 8. late--late, late, late, late
- 9. early--early, early, early, early
- 10. late--late, late, late, late

GROUP TEST FOR AUDITORY DISCRIMINATION
FOR
GRADE I

Helen A. Murphy
Rhode Island College of Education

Name	School	
Date	Age	Grade
Date of birth		

Score

Beginning consonants _____

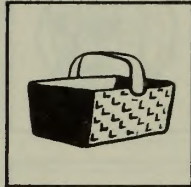
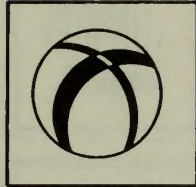
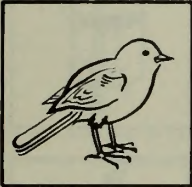
Beginning blends _____

Final consonants _____

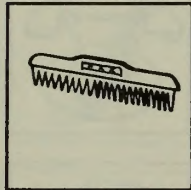
Rhymes _____

Total _____

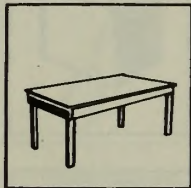
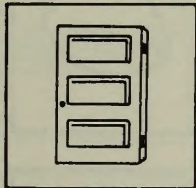
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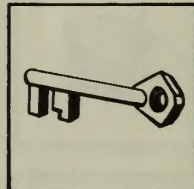
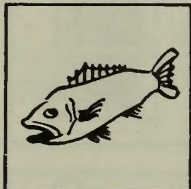
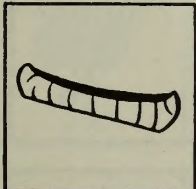
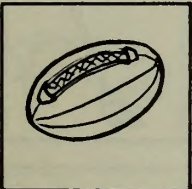
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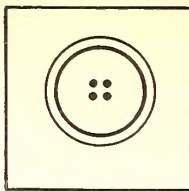
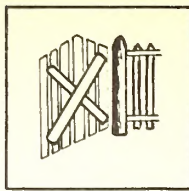
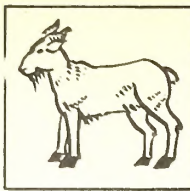
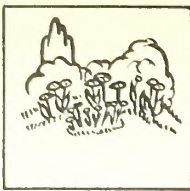
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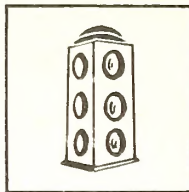
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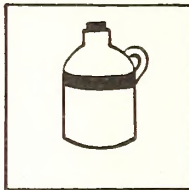
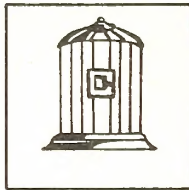
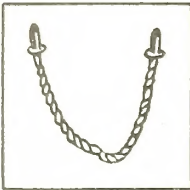
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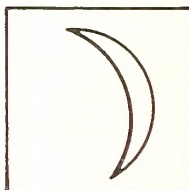
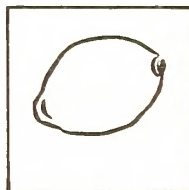
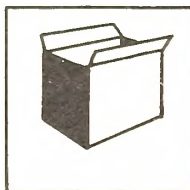
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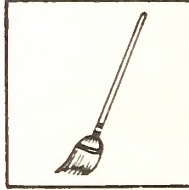
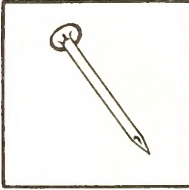
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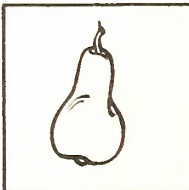
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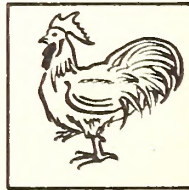
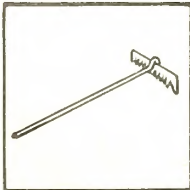
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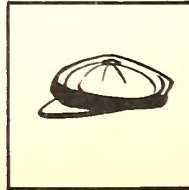
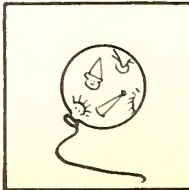
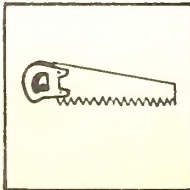
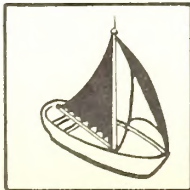
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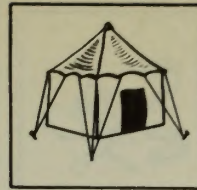
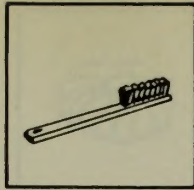
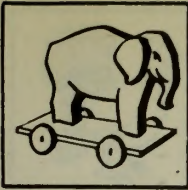
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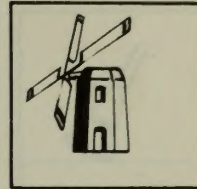
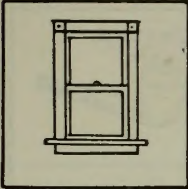
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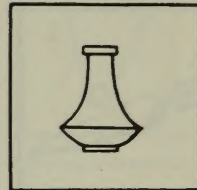
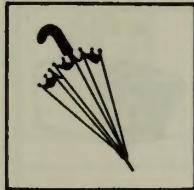
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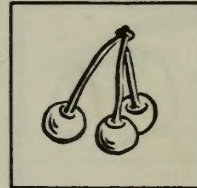
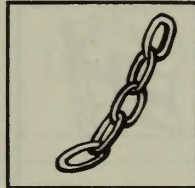
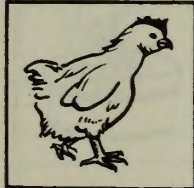
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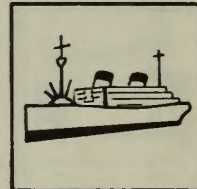
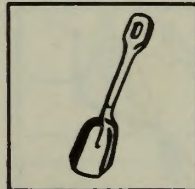
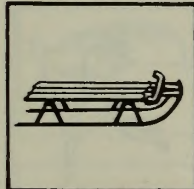
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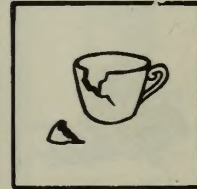
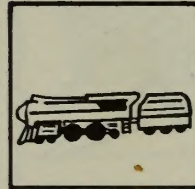
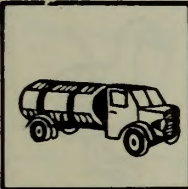
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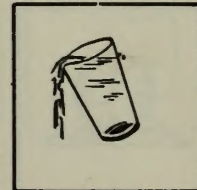
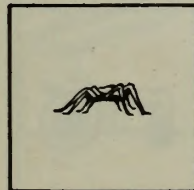
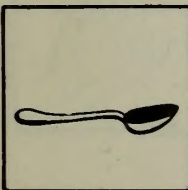
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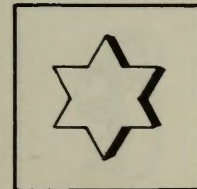
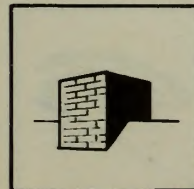
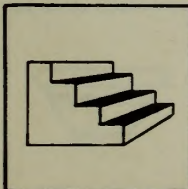
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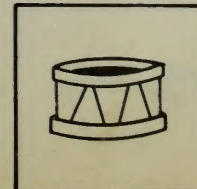
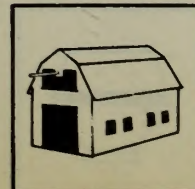
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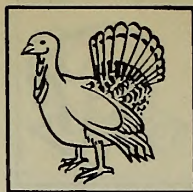
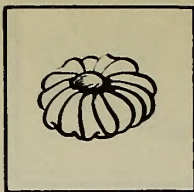
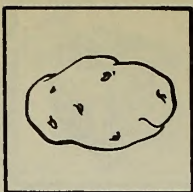
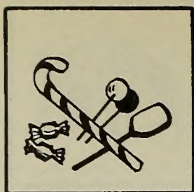
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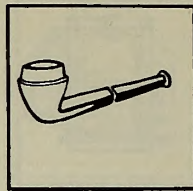
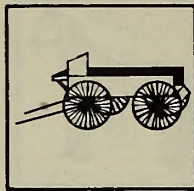
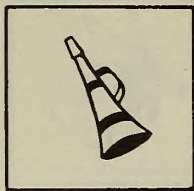
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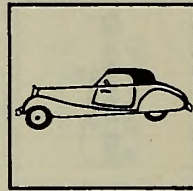
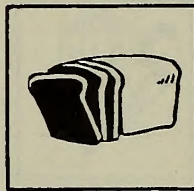
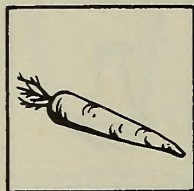
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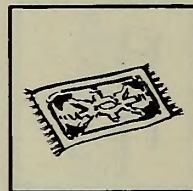
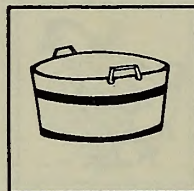
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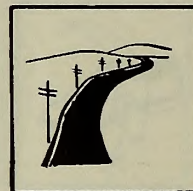
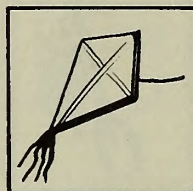
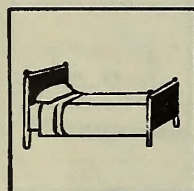
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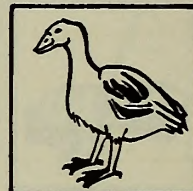
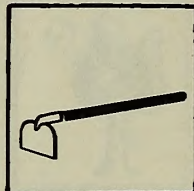
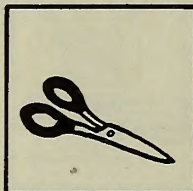
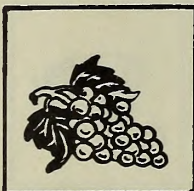
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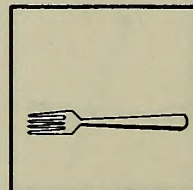
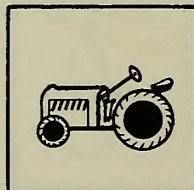
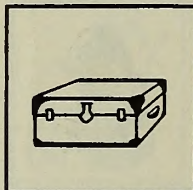
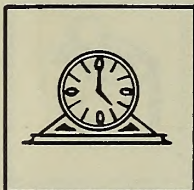
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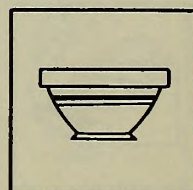
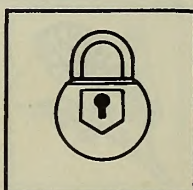
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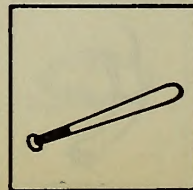
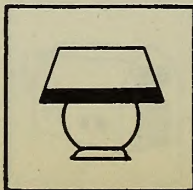
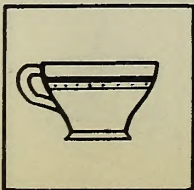
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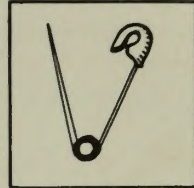
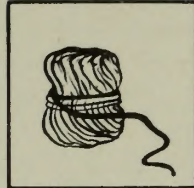
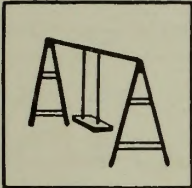
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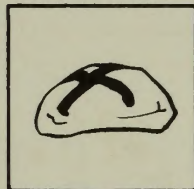
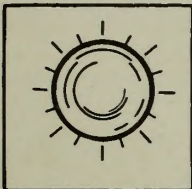
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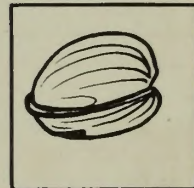
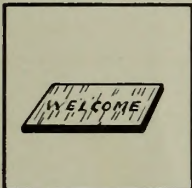
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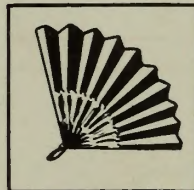
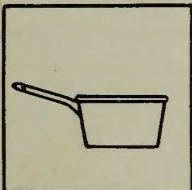
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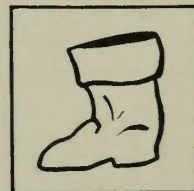
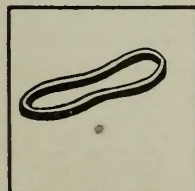
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4



5



INSTRUCTIONS FOR ADMINISTERING VISUAL TEST

Each child has a copy of the test, a pencil and a colored marker.

Say, "Put your marker under this line like this (demonstrating). I am going to hold up a card that has one letter on it which looks like one letter in this row. See if you can find the letter like this." Hold up Card Number 1. "Put a small mark with letter on your paper". Be sure each child has the correct letter. Help any child needing it.

"Now your marker down to the next line. Can you find this letter?" (holding Card Number 2) Be sure all have it correct.

"Now I'm going to see if you can do this without help. Now your marker under the next line. **VISUAL DISCRIMINATION TEST** (see Appendix) "What can you find?"

Continue these directions before each line. Be sure the children know all the time the word is exposed.

The following are the key letters and words: a, b, c, d, e, f, g, h, i, j, k, l, m, n, o, p, q, r, s, t, u, v, w, x, y, z. All, big, boy, can, cat, clock, corn, first, home, open, stop, jump, alone, alone, world, forget, terrible, part, pain, different, more, before, outside, hard, capital.

The word is the number of correct items.

POST-POSTAL-POSTAL-POSTAL

DIRECTIONS FOR ADMINISTERING VISUAL TEST

Each child has a copy of the test, a pencil and a colored marker.

Say, "Put your marker under this line like this (demonstrating). I am going to hold up a card that has one letter on it which looks like one letter in that row. See if you can find the letter like this." Hold up Card Number 1. "Put a circle around this letter on your paper". Be sure each child has the correct letter. Help any child needing it.

"Move your marker down to the next line. Can you find this letter?" (Exposing Card Number 2) Be sure all have it correct.

"Now I'm going to see if you can do the others without help. Move your marker under the next line. Watch." (Hold card five seconds.) "Mark and move your marker".

Continue these directions before each line. Be sure the children watch all the time the card is exposed.

The following are the key letters and words: g,s,m,o,w,e,a,l,z,t,k,y. x,v,e,u,n,j,i,f,h,r,d,g,p,b; all, nip, boy, man, saw, sat, block, burn, first, nose, spice, drop, jump, alone, clear, world, forget, terrible, parts, quite, different, cure, inform, certain, hovel, capital.

The score is the number of correct items.

INSTRUCTIONS FOR ADMINISTERING VISUAL TEST

Each child has a copy of the test, a pencil and a colored marker.

Say, "Put your marker under this line like this (demonstrating). I am

going to hold up a card that has one letter on it which looks like one

letter in that row. See if you can find the letter like this." Hold up

Card Number 1. "Put a circle around this letter on your paper." Be sure

each child has the correct letter. Help any child needing it.

"Have your marker down to the next line. Get the next letter."

(Repeating Card Number 2) Be sure all have the correct.

"Now I'm going to see if you can do the others without help. Show your

marker under the next line. Ready." (Hold up five seconds.) "Next one

have your marker."

Continue these directions before each line. Be sure the children

circle all the time the card is exposed.

The following are the key letters and number: a, b, c, d, e, f, g, h, i, j, k, l, m, n, o, p, q, r, s, t, u, v, w, x, y, z.

a, b, c, d, e, f, g, h, i, j, k, l, m, n, o, p, q, r, s, t, u, v, w, x, y, z.

first, none, again, stop, again, stop, again, stop, again, stop, again, stop.

quite, different, sure, infer, certain, never, capital.

The score is the number of correct letters.

GROUP TEST FOR VISUAL DISCRIMINATION**FOR****GRADE I****Helen A. Murphy****Rhode Island College of Education****Name****School****Date****Age****Grade**

1. m s o g y

14. w u v y n

2. e o s m f

15. c o a e d

3. h m n u v

16. w u n m v

4. e a c o r

17. m o h n r

5. v w u m n

18. g y j i q

6. c e o a r

19. e i j l t

7. e o c g a

20. f t h k l

8. t l h b k

21. n m k l h

9. s c z m f

22. r o n m u

10. h k l t f

23. p d b q g

11. h k t f l

24. g b p q d

12. g p y q h

25. p g b d q

13. s x o m z

26. d p g q b

1. at ball ill all fall	10. nose ice mice race nice
2. no on imp in nip	11. speak speck stick spice peck
3. dog boy day boys play	12. drip prop drops rap drop
4. me men name man run	13. jump jest just jot must
5. saw war as was waste	14. along around alone lone atone
6. tis sit sat it site	15. clear clean close climb lean
7. dark lack clock black block	16. would word world whirl wound
8. barn bun burn bar done	17. forgot target forget forgotten first
9. frost first fast firm trust	18. terror tremble trouble terribly terrible

19. par park

party part dark

23. inform uniform

reform information form

20. quite quick

quack quiet quit

24. curtain certain

sustain curtains maintain

21. dinner differ

different difference

25. hovel shave

shovels shrivel shovel

22. sure scare

secure server cure

26. contact contain

contract capital convict

VOCABULARY COMMON TO TWO-FOUNDER AND FOUNDER IS:

Easy Growth In Reading, Winston Company

Cathedral Readers: Curriculum Foundations Series, Scott,
Foreman Company

Basic Readers: Curriculum Foundations Series, Scott,
Foreman Company

a	got	pick	what
all	girl	play	what?
and	go	play	was
are	good	pretty	we
at	good-by		went
away	house	red	what
baby		red	where
ball	happy	ride	white
big	have	run	will
birthday	he		with
black	help	sold	
blue	hen	sat	yellow
broke	here	saw	you
born-again	how	school	

ORAL READING TEST

but	I	she
	in	something
even	it	tail
was	is	there
black		that
spare	Kitchen	the
spare		they
	likes	this
all	little	three
do	look	to
dog		was
doll	make	was
down	me	ways
	mother	was
off	of	
again		under
farm	so	up
fast	not	
father		
find	at	
for	on	
fox	one	
funny	out	
	out	

1. par pars	23. reform uniform
2. quit quick	24. curtain certain
3. quick quiet quit	25. novel shave
4. dinner differ	26. contact contain
5. different difference	27. contract capital convict
6. sure score	
7. secure server sure	

WAT WITNESS JAM

VOCABULARY COMMON TO PRE-PRIMERS AND PRIMERS IN:

Easy Growth In Reading, Winston Company

Cathedral Readers: Curriculum Foundations Series, Scott,
Foresman Company

Basic Readers: Curriculum Foundations Series, Scott,
Foresman Company

a	get	pigs	want
all	girl	play	wanted
and	go	pony	was
are	good	pretty	we
at	good-by		went
away	guess	ran	what
Baby		red	where
ball	happy	ride	white
big	have	run	will
birthday	he		with
black	help	said	
blue	hen	sat	yellow
boats	here	saw	you
bow-wow	home	school	
boy		see	
but	I	she	
	in	something	
came	it	tail	
can	is	thank	
cluck		that	
come	Kittens	the	
cows		they	
	likes	this	
did	little	three	
do	look	to	
dog		too	
doll	make	Tom	
down	me	toys	
	mother	two	
eat	my		
eggs		under	
farm	no	up	
fast	not		
Father			
find	oh		
for	on		
fun	one		
funny	our		
	out		

Tom's Birthday

It was Tom's birthday. He did not have school. Mother, Father, Baby, and Tom went for a ride. They wanted to get eggs at the farm. Guess what they saw. They saw three black and white cows, two yellow kittens, a pig with a funny tail, and a pony, too. The pony ran fast. A big dog came out and said, "Bow-wow."

It was fun at the farm. Tom was happy. He said, "I like this farm, Mother, but I like our home, too. I like to eat eggs. Thank you Father, for our ride."

Toys

All boys and girls want to have toys to play with. Boys want something that can go up and down. They help make toys. They make little boats that look like big boat. A girl likes a pretty doll. She is good to it. Baby likes a red and blue ball.

Where are the toys? Are they in the house? Did you put the toys away?

Toys

All boys and girls want to have
toys to play with. Boys want
something that can go up and down.
They help make toys. They make
little boats that look like big boats.
A girl likes a pretty doll. The
doll is good to sit on. Baby likes a red
and blue ball.
Where are the toys? Are they
in the house? Did you put the toys
away?

come here
good-by
see me run
my
no
sat
we
under
on
sand
cry
name
sun
fat
catch
seen
call
table
river
people
chair
quick
first
picture
breakfast

Some of the
best of the
and the

All

Love is

something

They are

little

A girl

is good

and his

Wife

in the

ways

every
one
of
the
best
of
the
and
the

Name

School

Tom's Birthday

It was Tom's birthday. He did not have school. Mother, Father, Baby, and Tom went for a ride. They wanted to get eggs at the farm. Guess what they saw. They saw three black and white cows, two yellow kittens, a pig with a funny tail, and a pony, too. The pony ran fast. A big dog came out and said, "Bow-wow". One hen said, "Cluck".

It was fun at the farm. Tom was happy. He said, "I like this farm Mother, but I like our home, too. I like to eat eggs. Thank you, Father, for our ride."

Toys

All boys and girls want to have toys to play with. Boys want something that can go up and down. They help make toys. They make little boats that look like big boats. A girl likes a pretty doll. She is good to it. Baby likes a red and blue ball. Where are the toys? Are they in the house? Did you put the toys away?

come here	good-by	see me run	my	no			
sat	we	under	on	sand	cry	name	sun
fat	catch	seen	call	table	river		
people	chair	quick	first	picture			
breakfast							

APPENDIX C

STANDARD TESTS

U. S. DEPARTMENT OF AGRICULTURE

STATIONER - CHARLOTTE

DETROIT BEGINNING FIRST-GRADE INTELLIGENCE TEST

(Revised)

Prepared by ANNA M. GALE, Assistant Director, School Education, Detroit Public Schools,
and HARRY J. BAKER, Director, Psychological Clinic, Detroit Public Schools.

1. First name _____ Initial _____ Sex _____
2. School _____ Birth Date _____
3. Age _____ Mental Age _____ IQ _____

EXAMINATION: FORM A

Test 1

A



1



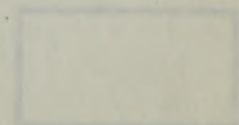
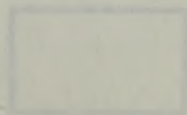
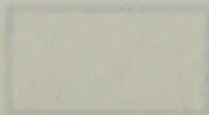
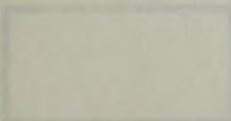
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3



4



Form A, Test 1

DETROIT BEGINNING FIRST-GRADE INTELLIGENCE TEST

(Revised)

By ANNA M. ENGEL, Assistant Director, Special Education, Detroit Public Schools,
and HARRY J. BAKER, Director, Psychological Clinic, Detroit Public Schools

Last name..... First name..... Initial... Sex: M... F...

City..... School..... Birth date.....

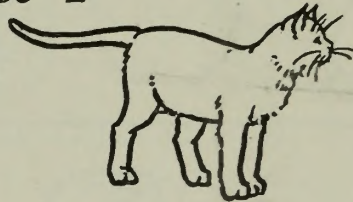
Rating..... Mental Age..... IQ.....

No. OF TEST	SCORE
1	
2	
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7	
8	
9	
10	
Total	

EXAMINATION: FORM A

A

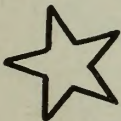
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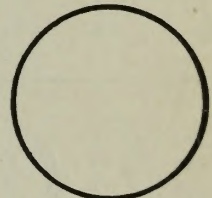
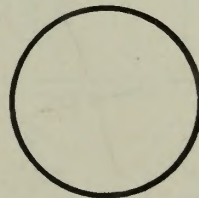
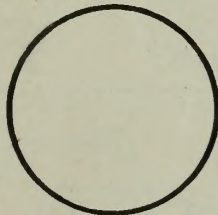
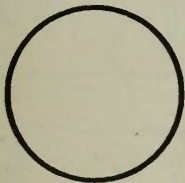
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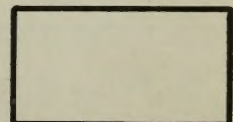
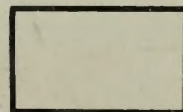
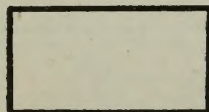
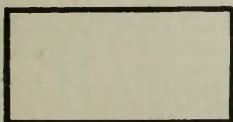
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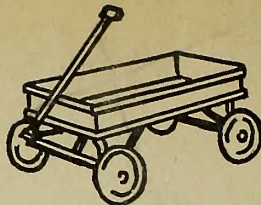
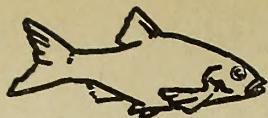
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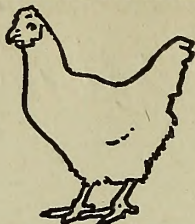
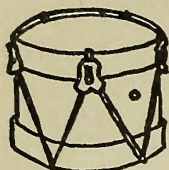
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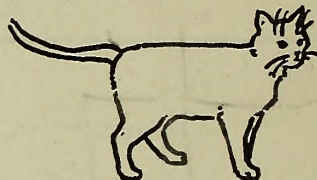
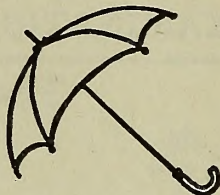
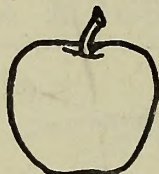
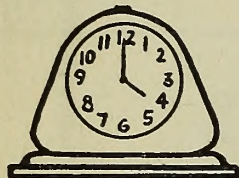
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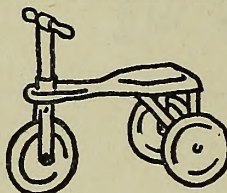
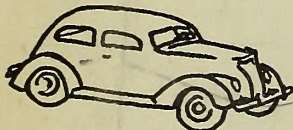
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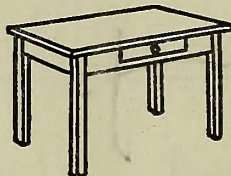
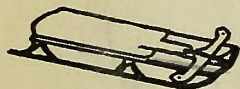
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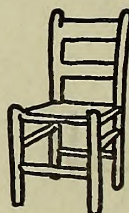
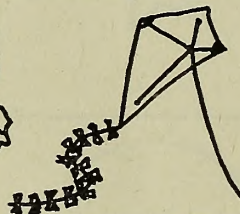
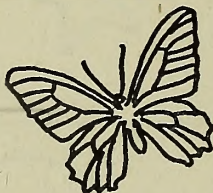
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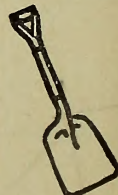
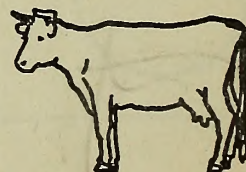
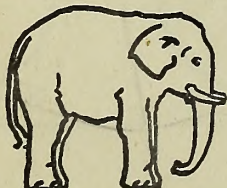
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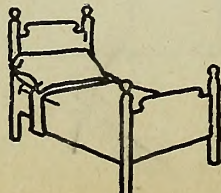
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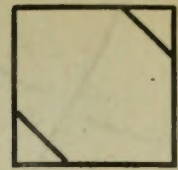
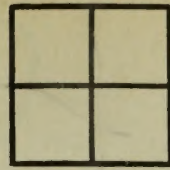
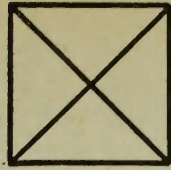
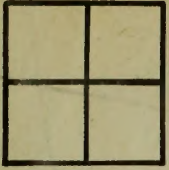


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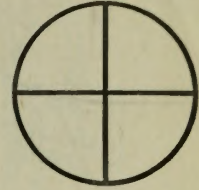
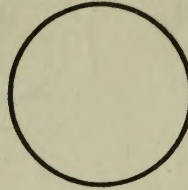
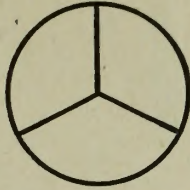


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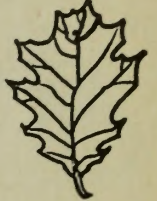
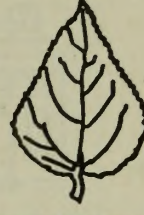
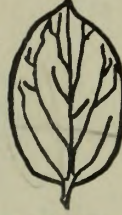
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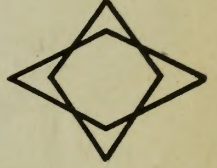
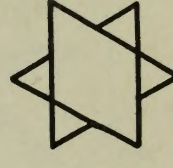
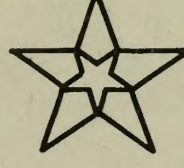
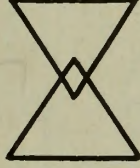
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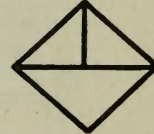
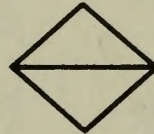
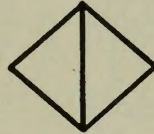
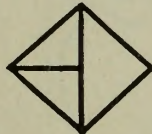
2



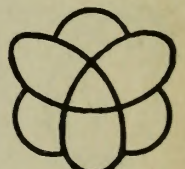
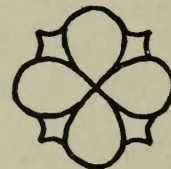
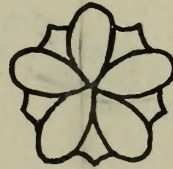
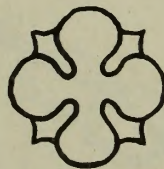
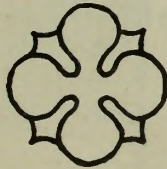
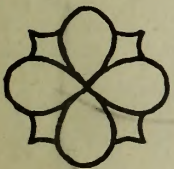
3



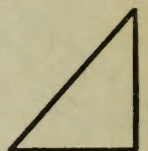
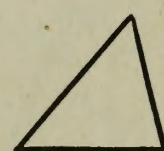
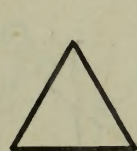
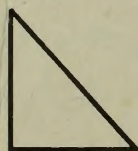
4



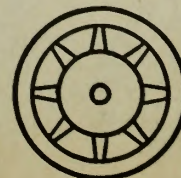
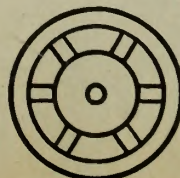
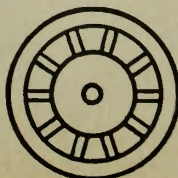
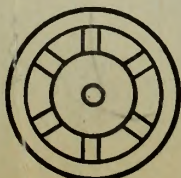
5



6

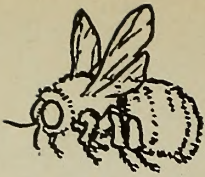


7

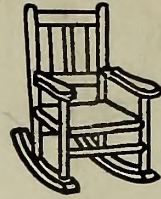


A

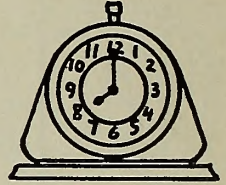
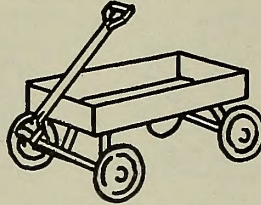
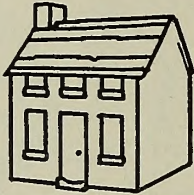
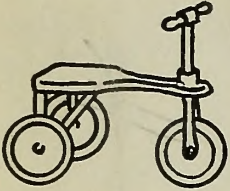
Test 4



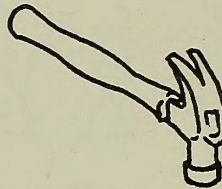
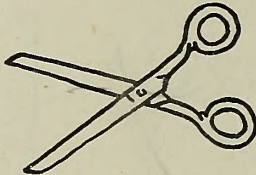
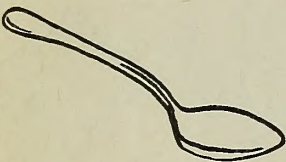
1



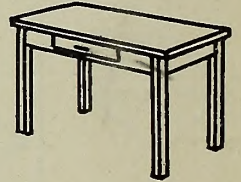
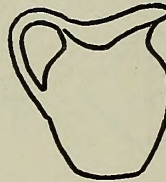
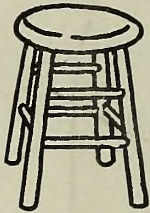
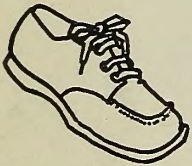
2



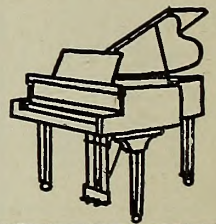
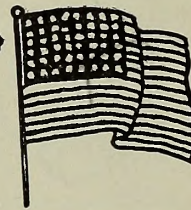
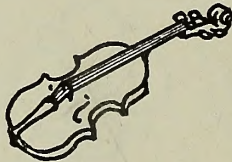
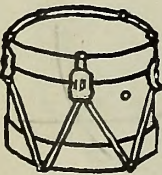
3



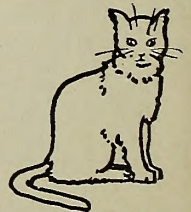
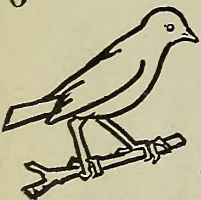
4



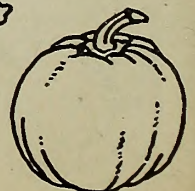
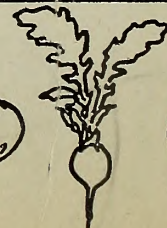
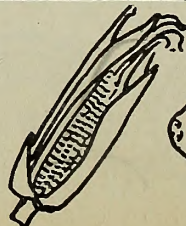
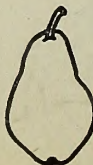
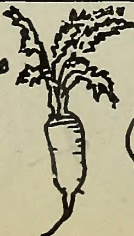
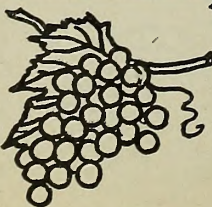
5



6



7

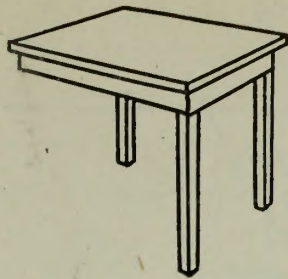


Test 5

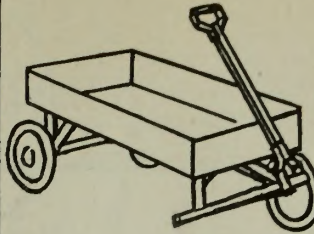
A



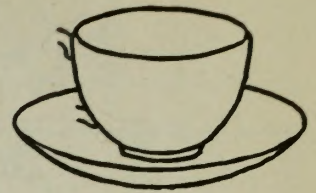
1



2



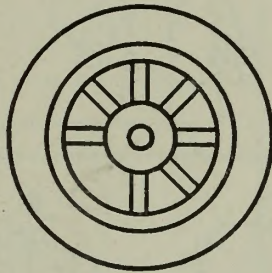
3



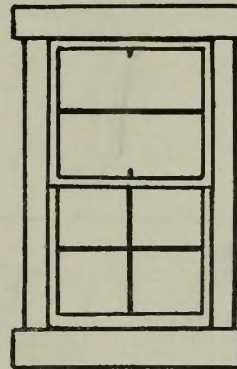
4



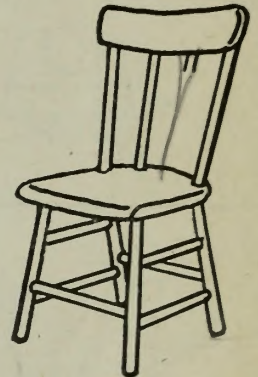
5



6



7



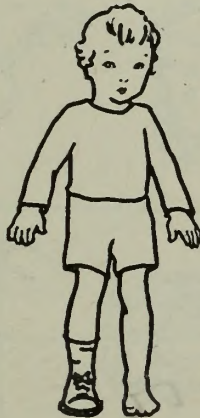
Score

Test 6

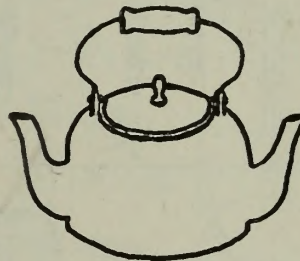
A



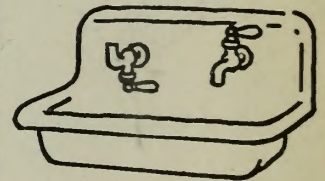
1



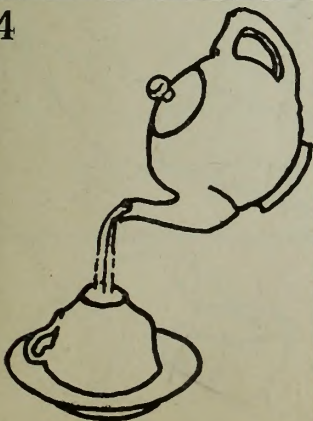
2



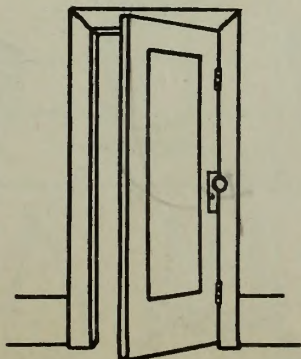
3



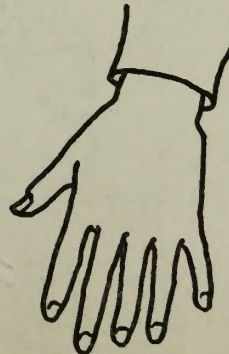
4



5



6



7

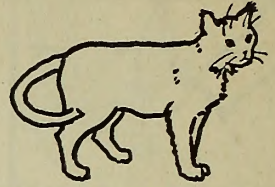
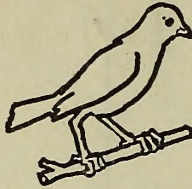


Test 7

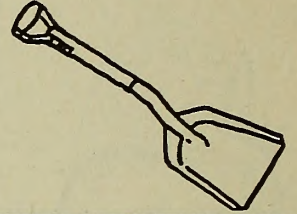
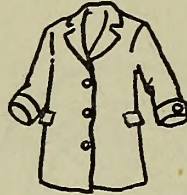
A



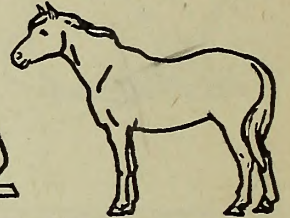
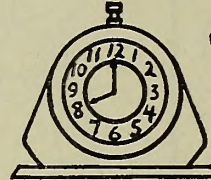
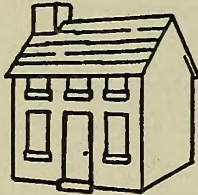
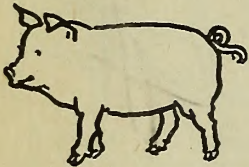
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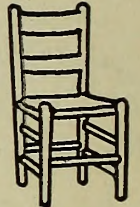
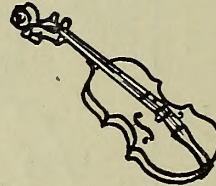
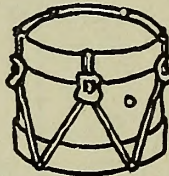
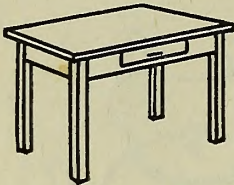
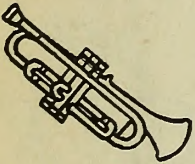
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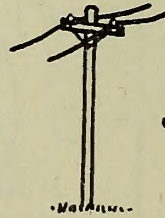
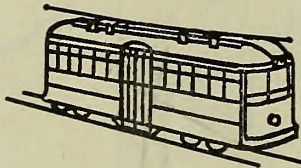
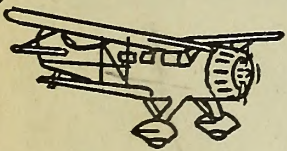
3



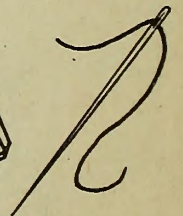
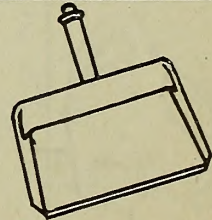
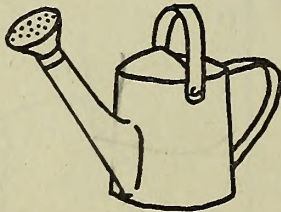
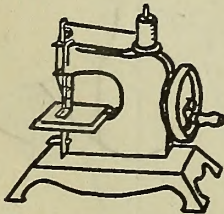
4



5



6

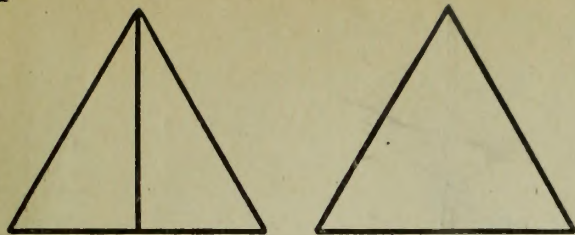


7

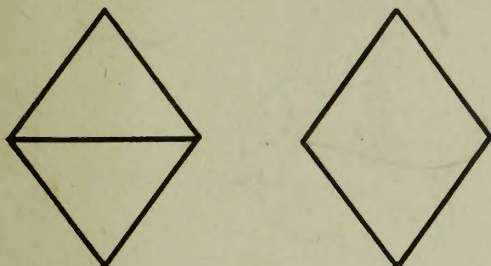


Test 8

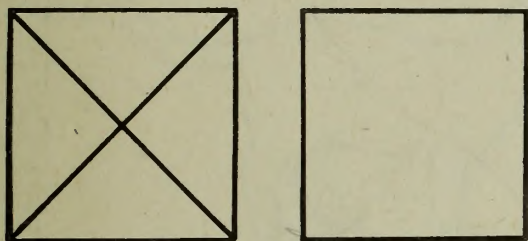
A



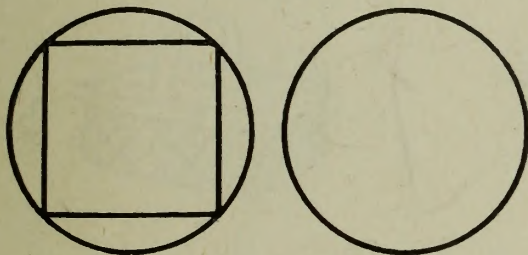
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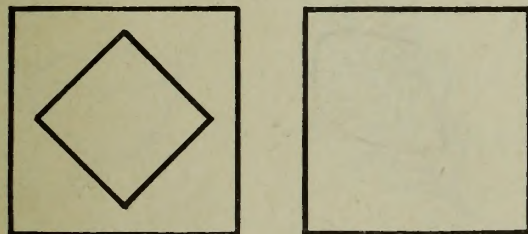
2



3



4

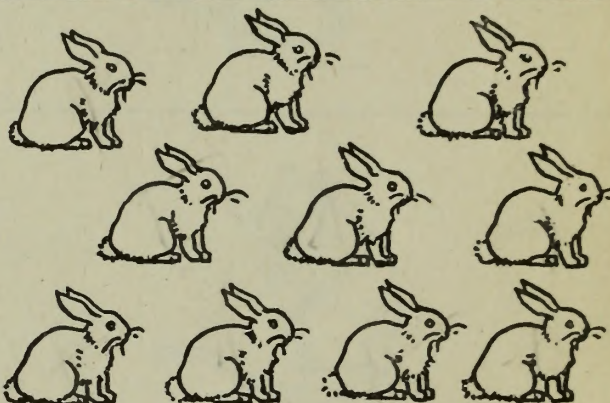
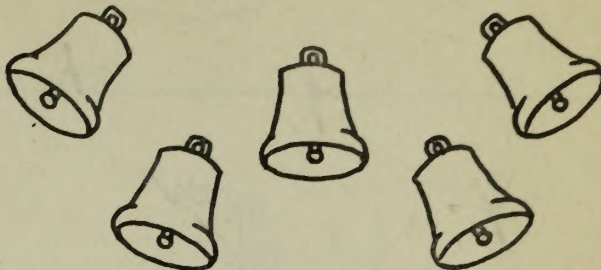
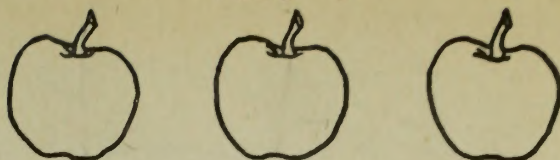


5



Score [7]

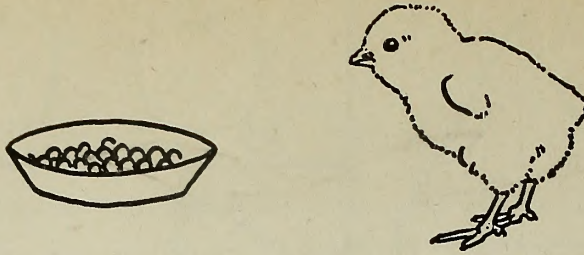
Test 9



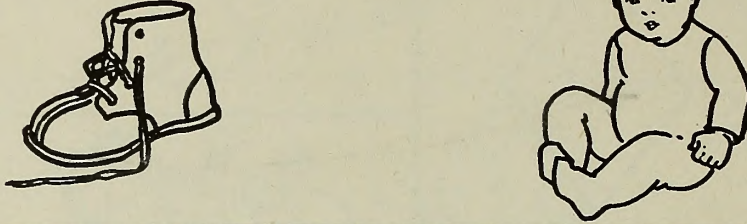
Score

Test 10

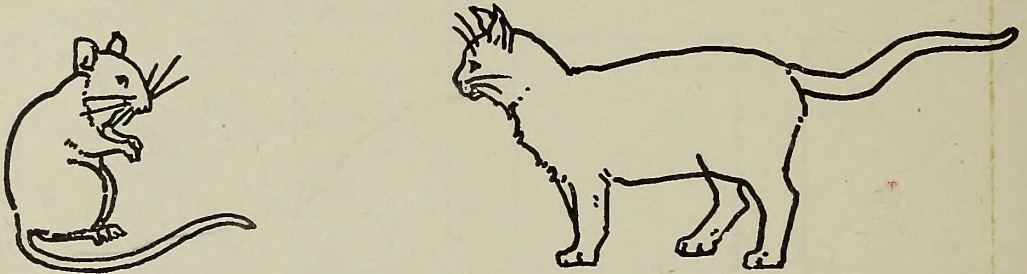
A



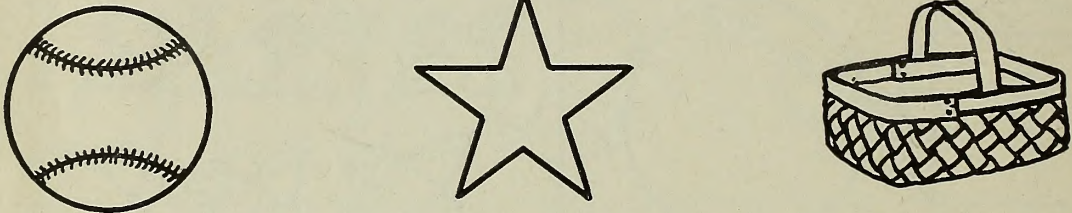
1



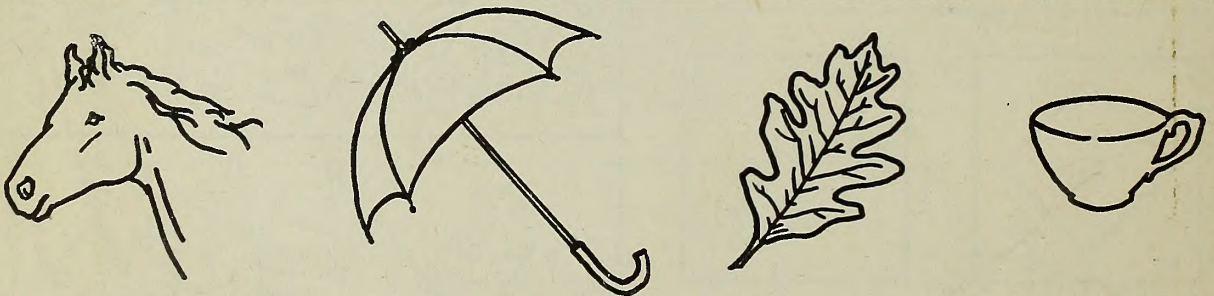
2



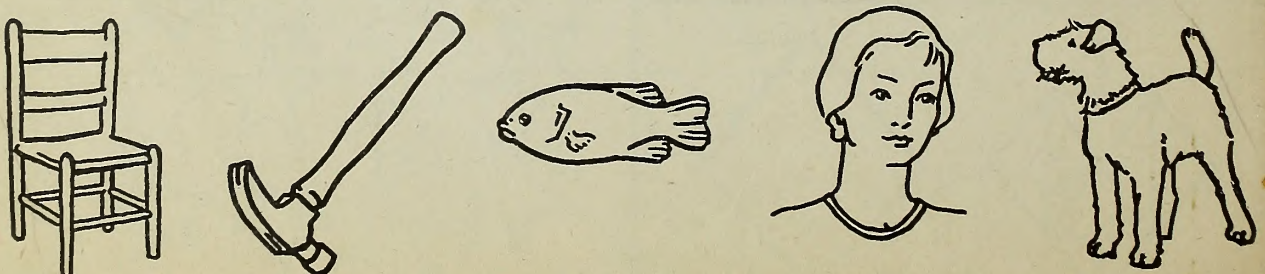
3



4



5



DETROIT WORD RECOGNITION TEST

By ELIZA F. OGLESBY, A.M.

Formerly Assistant Supervisor of Reading
Detroit, Michigan

EXAMINATION: FORM A

For Primary Grades

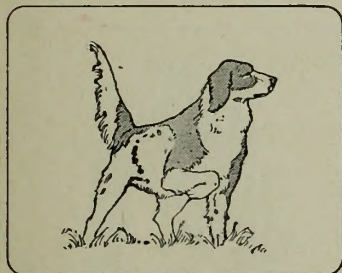
Name Score
(First name, initial, and last name)

Age last birthday years months

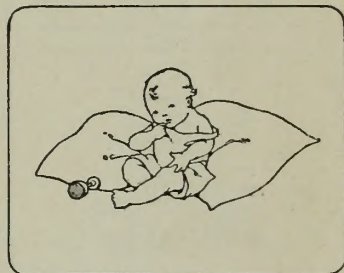
Grade Teacher

School

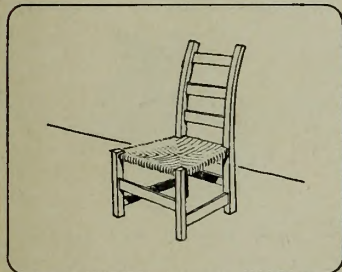
City Date



chair



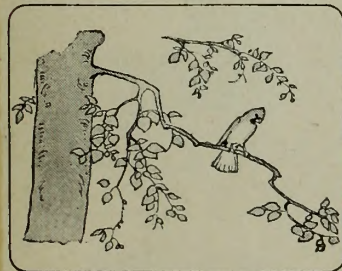
baby



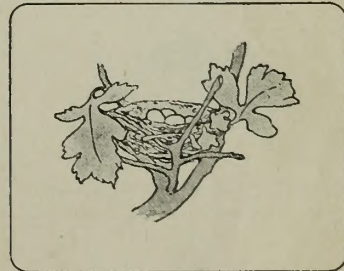
dog



nest



a girl running

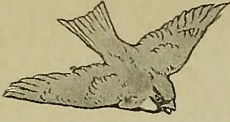


a bird in a tree

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boy

1

bird

2



tree

3

bed

4

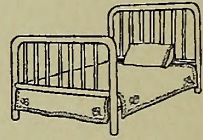


apple

5

door

6



house

7

girl

8

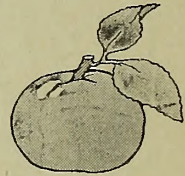


king

9

fire

10

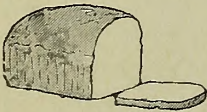


man

11

mother

12

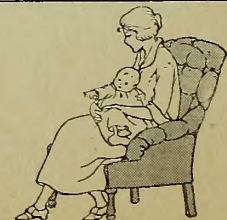


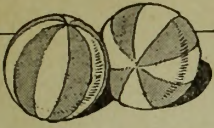
children

13

bread

14





a white horse

15

a black horse

16

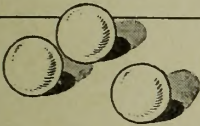


two big balls

17

three little balls

18

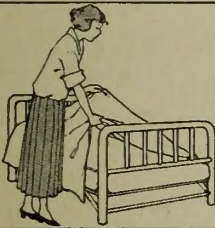
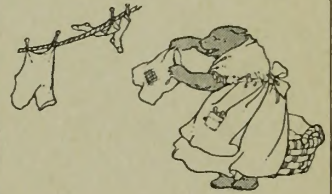


a bird's house

19

a house on a hill

20

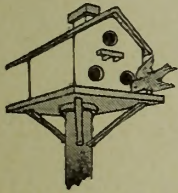


a father bear

21

a mother bear

22



a mother
making a bed

23

a bird sleeping

24



a bird flying
over a tree

25

some apples
on a tree

26



some apples
on the ground

27

a boy with some
bread and milk

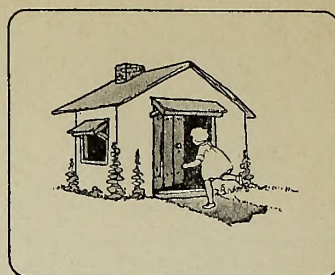
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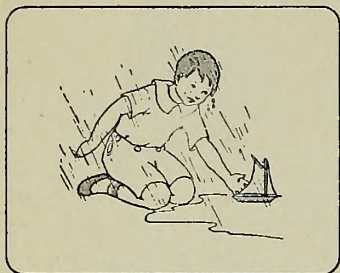
a boy playing
in the rain

29



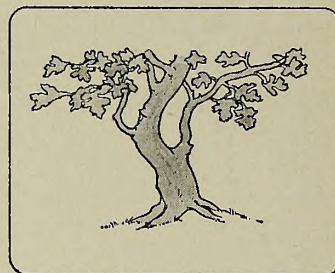
a girl running
into a house

30



a girl running
up a hill

31



a girl running
down a hill

32



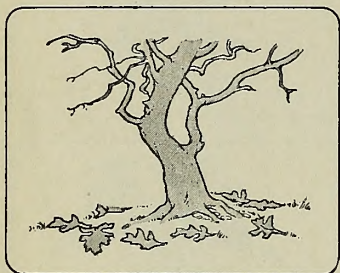
some leaves
on a tree

33



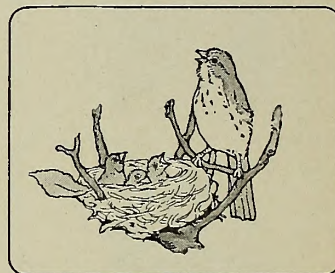
some leaves
under a tree

34



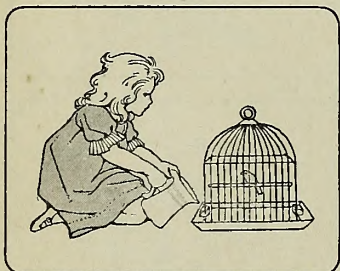
a boy going
for a walk

35



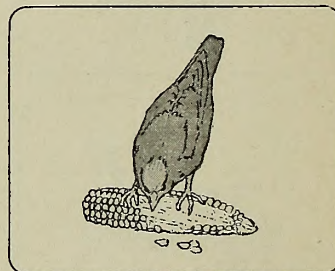
a boy buying a
can of corn

36



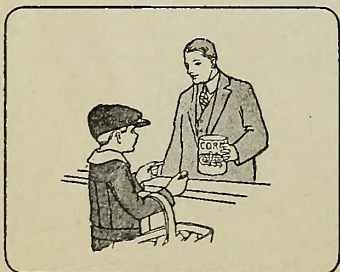
a father telling his
little girl to come

37



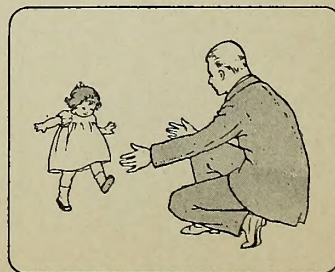
a bird eating corn

38



a bird singing
to her little ones

39



a girl giving her
bird some water

40

By Frank W. Johnson, A.M.
 Director, American Institute of Reading
 Chicago, Illinois

EXAMINATION FORM B

For Primary Grades

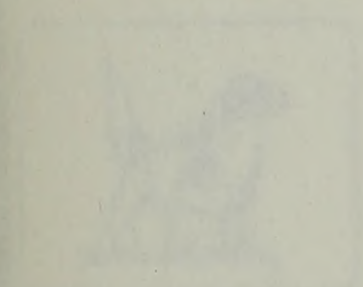
Name _____ Date _____

Age _____ Sex _____

Grade _____ Teacher _____

Address _____

City _____ State _____ Date _____



chair



baby



dog



boy



girl running



boy running



a boy playing
in the rain



a girl running
into a house



a girl running
up a hill



a girl running
down a hill



some leaves
on a tree



some leaves
under a tree



a boy going
for a walk



a boy buying a
can of corn



a father telling his
little girl to come



a bird eating corn



a bird singing
to her little ones



a girl giving her
bird some water

DETROIT WORD RECOGNITION TEST

By ELIZA F. OGLESBY, A.M.

Formerly Assistant Supervisor of Reading
Detroit, Michigan

EXAMINATION: FORM B

For Primary Grades

Name Score
(First name, initial, and last name)

Age last birthday years months

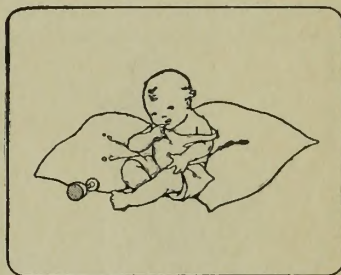
Grade Teacher

School

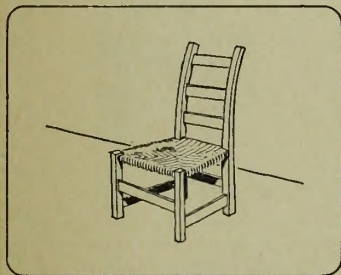
City Date



chair



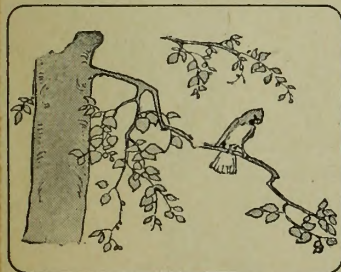
baby



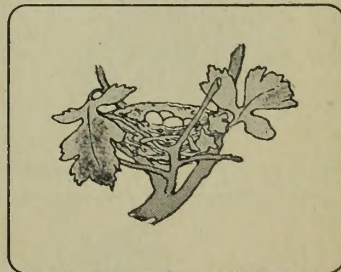
dog



nest



a girl running



a bird in a tree

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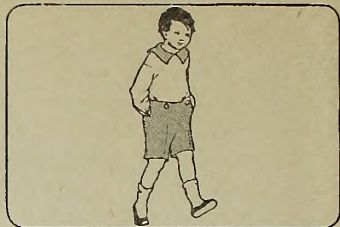


tree

1

boy

2

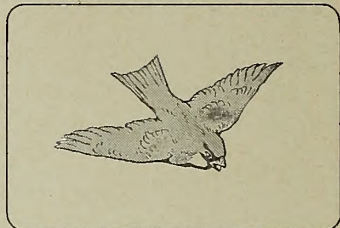


girl

3

apple

4

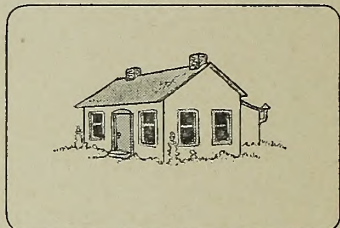


mother

5

king

6

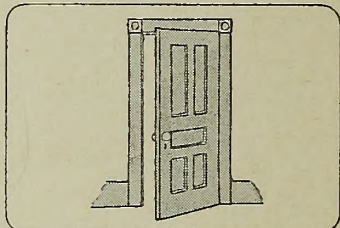


bird

7

house

8

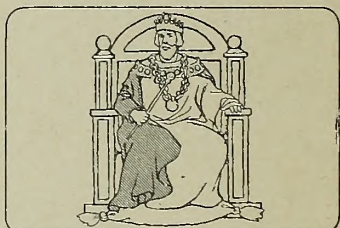


father

9

door

10

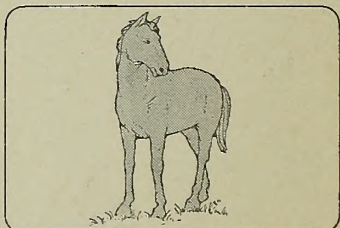


children

11

bed

12

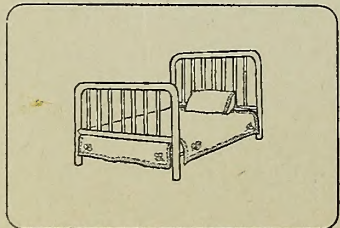
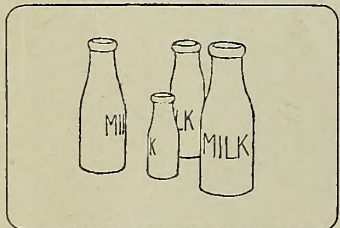
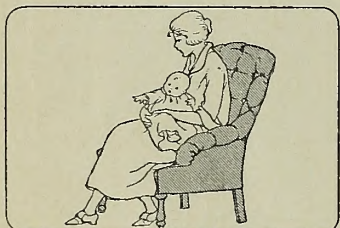
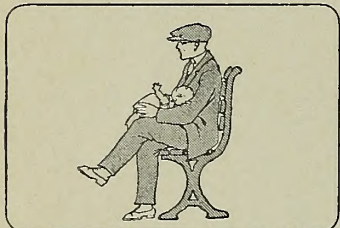
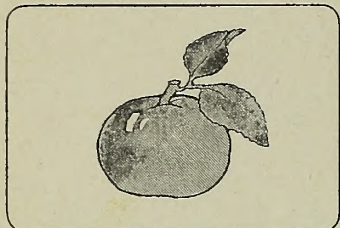
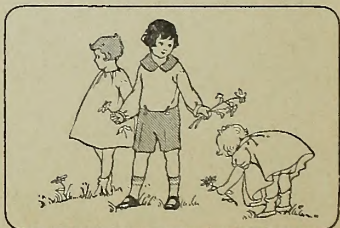


milk

13

horse

14





some boys and
girls

15

a black bear

16



a white bear

17

one big ball

18

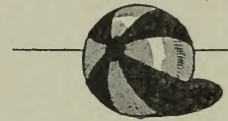


two little balls

19

a can of corn

20



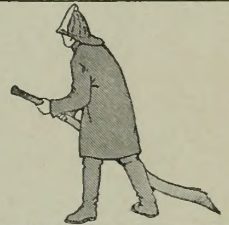
a boy eating
corn

21



a milk man

22



a fire man

23

a boy making
a fire

24



a house for a
bird

25

a bird sleeping
in a tree

26

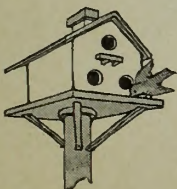


a bird flying over
an apple tree

27

a bird under
an apple tree

28





a girl going
into a house

29

a girl buying
some bread

30

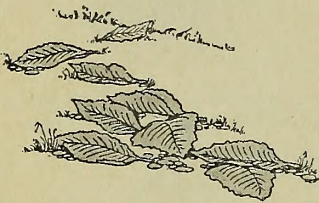
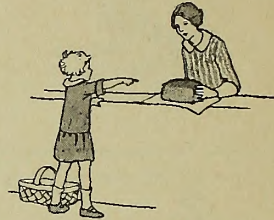


some leaves
on a tree

31

some leaves
on the ground

32



three children
playing ball

33

a father with his
three children

34

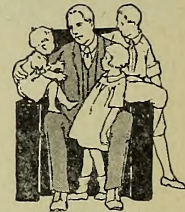


a girl telling a
boy to come

35

a boy walking
in the rain

36

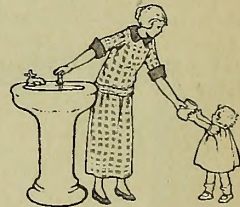


a boy walking
up a hill

37

a boy walking
down a hill

38



a mother singing
to her little girl

39

a mother giving
her little girl
some water

40





a girl going
into a house



a girl buying
some bread



some leaves
on a tree



some leaves
on the ground



three children
playing ball



a father with his
three children



a girl telling a
boy to come



a boy walking
in the rain



a boy walking
up a hill



a boy walking
down a hill



a mother singing
to her little girl



a mother giving
her little girl
some water

PHALLOGRAPHY

BIBLIOGRAPHY

1. Allen, Allen, "Study of the Psychological Factors in Reading and Spelling", Unpublished Ed. M., Thesis 1936, Boston University School of Education.
 2. Arthur, Cyrus, "A Quantitative Study of the Results of Grouping First Grade Pupils According to Mental Age", Ed. Ed. Review, Vol. 17, pp. 173-186, October 1933.
 3. Bates, S.A., "Is Reading Related to Drawing Up?", Progressive Education, Vol. 12, pp. 44-45, December 1933.
 4. Boney, O.E.C., "Records of Arithmetic or Reading Readiness", Elementary English Review, Vol. 117, pp. 187-187, May 1937.
 5. Bond, G.B., "The Individual and Speech Characteristics of Poor Readers", Contributions to Education, No. 409, Teachers College, Columbia University, 1938.
 6. Brookhill, Ed., "Current Practices With Respect to Phonetic Analysis in the Primary Grades", Elementary School Journal, Vol. 43, pp. 180-186, November 1933.
 7. Carrell, E., "The Differences in Reading Readiness", Unpublished Ed. M. Thesis, Boston University, 1936.
- BIBLIOGRAPHY**
8. Davidson, Ed., "An Experimental Study of Bright, Average and Dull Children as to Their Reading Level", Genetic Psychology Monographs, Vol. 29, pp. 1-44, March and April 1935.
 9. Davidson, Ed., "A Study of the Reading Level of 1,000 and 1,000 Pupils", Genetic Psychology and Journal of Genetic Psychology, Vol. 49, pp. 227-234, December 1936.
 10. Davis, J., "The Speech Aspects of Reading Readiness", National Elementary Educational Association Year Book of Proceedings of Elementary School Principals of U.S.A., Vol. 25, pp. 183-186, July 1933.
 11. Davis, Ed., "The Effect of First Grade Reading Achievement on the Reading Readiness", Contributions to Education, No. 409, Teachers College, Columbia University, 1938.
 12. Davis, Ed., "Reading Readiness", Elementary School Journal, Vol. 43, pp. 180-186, November 1933.
 13. Davidson, Ed., "A Study in First Grade Reading Skills in Three Years", Unpublished Ed. M. Thesis, Boston University 1936.

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BIBLIOGRAPHY

1. Acomb, Allan, "Study of the Psychological Factors in Reading and Spelling", Unpublished Ed. M., Thesis 1936, Boston University School of Education.
2. Arthur, Grace, "A Quantitative Study of the Results of Grouping First Grade Classes According to Mental Ages", Jr. Ed. Research Vol. 12: Pp. 173-185, October 1925.
3. Betts, E.A., "Is Reading Related To Growing Up?", Progressive Education Vol. XI: Pp. 450-453, December 1934.
4. Bonney, C.D.W. & Agnew, K. "Periods of Awakening or Reading Readiness", Elementary English Review, Vol. XIV: Pp. 183-187, May 1937.
5. Bond, G.L. "The Auditory and Speech Characteristics of Poor Readers", Contributions to Education, No. 657, Teachers College, Columbia University, 1935. A ✓
6. Brownell, W.A. "Current Practices With Respect to Phonetic Analysis in The Primary Grades", Elementary School Journal, Vol. 42, Pp. 195-206, November 1941.
7. Carroll, M. "Sex Differences in Reading Readiness", Unpublished Ed. M. Thesis, Boston University, 1941.
8. Davidson, H.P. "An Experimental Study of Bright, Average and Dull Children At The Four-Year Mental Level", Genetic Psychology Monographs, Vol. 9: Nos. 3 & 4, March and April 1931.
9. Davidson, H.P. "A Study of the Confusing Letters, b, d, p, and q", Pedagogical Seminary and Journal of Genetic Psychology, Vol. 47: Pp. 458-468, December 1935.
10. Davis, I. "The Speech Aspects of Reading Readiness", National Elementary Principal Seventeenth Year Book of Department of Elementary School Principals of N.E.A., Vol. XVII, Pp. 282-288, July 1938.
11. Deputy, E.C. "Predicting First Grade Reading Achievement--A Study in Reading Readiness", Contributions to Education, N-426 Teachers College, Columbia University, 1930.
12. Dolch, E.W. & Bloomster, M. "Phonic Readiness", Elementary School Journal, Vol. 38, Pp. 201-205, Nov. 1927.
13. Donnelly, H.E. "A Study in Word Recognition Skills in Grade One", Unpublished Ed. M. Thesis, Boston University 1932.

NEW JOURNAL

1. Adams, Alice. "Study of the Psychological Factors in Reading and Spelling." Journal of Educational Psychology, Vol. 19, No. 1, 1926. School of Education.
2. Arthur, Grace. "A Comparative Study of the Reading of Elementary and High School Children." Journal of Educational Psychology, Vol. 19, No. 1, 1926. School of Education.
3. Bess, E.A. "In Reading Material to Reading." Journal of Educational Psychology, Vol. 19, No. 1, 1926. School of Education.
4. Bess, E.A. "The Reading of Reading or Reading Material." Journal of Educational Psychology, Vol. 19, No. 1, 1926. School of Education.
5. Bess, E.A. "The Reading of Reading or Reading Material." Journal of Educational Psychology, Vol. 19, No. 1, 1926. School of Education.
6. Brownell, W.A. "Current Research in Reading." Journal of Educational Psychology, Vol. 19, No. 1, 1926. School of Education.
7. Carroll, M. "The Reading of Reading or Reading Material." Journal of Educational Psychology, Vol. 19, No. 1, 1926. School of Education.
8. Davidson, E.F. "An Experimental Study of Reading." Journal of Educational Psychology, Vol. 19, No. 1, 1926. School of Education.
9. Davidson, E.F. "An Experimental Study of Reading." Journal of Educational Psychology, Vol. 19, No. 1, 1926. School of Education.
10. Davis, J. "The Reading of Reading or Reading Material." Journal of Educational Psychology, Vol. 19, No. 1, 1926. School of Education.
11. Deary, E.C. "The Reading of Reading or Reading Material." Journal of Educational Psychology, Vol. 19, No. 1, 1926. School of Education.
12. Deary, E.C. "The Reading of Reading or Reading Material." Journal of Educational Psychology, Vol. 19, No. 1, 1926. School of Education.
13. Deary, E.C. "The Reading of Reading or Reading Material." Journal of Educational Psychology, Vol. 19, No. 1, 1926. School of Education.

14. Durrell, D.D. Improvement of Basic Reading Abilities, World Book Co., Yonkers, New York, 1941.
15. Gates, A.I. & Bocke, E. "A Study of Initial Stages in Reading by Pre-School Children", Teachers College Record, Vol. 24: Pp. 469-488, November 1923.
16. Gates, A.I. A Reading Vocabulary For The Primary Grades (Revised and Enlarged) Bureau of Publications, Teachers College, Columbia University, New York City 1935.
17. Gates, A.I. & Bond, G.L. "Reading Readiness", Teachers College Record, Vol. 37, Pp. 679-685, May 1936.
18. Gates, A.I. "The Necessary Mental Age For Beginning Reading", Elementary School Journal, Vol. 37; Pp. 498-508, March 1937.
19. Gates, A.I. "Basic Principles in Reading Readiness Testing", Teachers College Record, Vol. 40: Pp. 494-506, March 1939.
20. Gates, A.I. "An Experimental Evaluation of Reading Readiness Tests", Elementary School Journal, Vol. 39: Pp. 445-508, March '39.
21. Gates, A.I. & Bond, G.L. & Russell, D.H. "Methods of Determining Reading Readiness", Elementary School Journal, Vol. 40: Pp. 165-167, November 1939.
22. Harrison, Lucille Reading Readiness, Houghton Mifflin, 1939.
23. Hilliard, G.H. & Troxell, E. "Informational Background as a Factor in Reading Readiness and Reading Progress", Elementary School Journal, Vol. 38: Pp. 255-263, December 1937.
24. Hobson, E.R. "Reducing First Grade Failures", Elementary School Journal, Vol. 37: Pp. 30-40, September 1936.
25. International Kindergarten Union "A Study of the Vocabulary of Children Before Entering the First Grade, 1928.
26. Johnson, W.H. "Pre-reading Program of the Chicago Public Schools", Elementary School Journal, Vol. 40: Pp. 37-44, Sept. '39.
27. Junkins, K.M. "The Construction and Evaluation of Exercises for Developing Visual Discrimination in Beginning Reading", Unpublished Ed. M. Thesis, Boston University School of Ed. 1940.
28. Lee, J.M., Clark W.W. & Lee, D.M. "Measuring Reading Readiness", Elementary School Journal Vol. 34: Pp. 656-666, May 1934.

14.	Barrett, D.H.	Improvement of Junior Reading Abilities. World Book Co., Tombert, New York, 1941.
15.	Gates, A.I. & Horns, E.	"A Study of Initial Stages in Reading by Two-School Children." Teachers College Record, Vol. 34, pp. 437- 452, November 1933.
16.	Gates, A.I.	A Reading Vocabulary for the Primary Grades (Revised and enlarged) Bureau of Publications, Teachers College, Columbia University, New York City 1935.
17.	Gates, A.I. & Horns, E.L.	"Reading Readiness." Teachers College Record, Vol. 37, pp. 570-585, May 1936.
18.	Gates, A.I.	"The Necessary Mental Age for Beginning to Read." Elementary School Journal, Vol. 37, pp. 495-500, March 1937.
19.	Gates, A.I.	"Table of Initial Stages in Reading Readiness Tests." Teachers College Record, Vol. 37, pp. 484-500, March 1937.
20.	Gates, A.I.	"An Experimental Evaluation of Reading Readiness Tests." Elementary School Journal, Vol. 38, pp. 448-502, March 1938.
21.	Gates, A.I. & Horns, E.L. & Russell, D.B.	"Methods of Determining Reading Readiness." Elementary School Journal, Vol. 40, pp. 188-197, November 1939.
22.	Barrett, D.H.	Junior Reading Readiness. Houghton Mifflin, 1935.
23.	Killard, G.S.	"Informational Background as a Factor in Reading Readiness." Elementary School Journal, Vol. 38, pp. 448-502, March 1938.
24.	Hudson, E.E.	"Reading the Grade Tables." Elementary School Journal, Vol. 37, pp. 30-40, September 1936.
25.	Emery, W.H.	"A Study of the Vocabulary of Children Before Entering the First Grade." 1935.
26.	Johnson, W.H.	"Pre-reading Program of the Chicago Public Schools." Elementary School Journal, Vol. 40, pp. 37-44, June 1939.
27.	Jenkins, E.M.	"The Construction and Evaluation of Inventory for the Reading Readiness Investigation in Reading Readiness." Unpublished Ed. M. Thesis, Boston University School of Ed. 1940.
28.	Lee, J.H. & Clark, W.E. & Lee, D.M.	"Measuring Reading Readiness." Elementary School Journal Vol. 34, pp. 580-586, May 1934.

29. Litterer, Oscar "An Experimental Study of Visual Apprehension in Reading", Journal of Applied Psychology, Vol. 17: Pp. 226-276, June 1933.
30. McKee, Paul "Certain Matters of Importance in Teaching Reading", Elementary English Review, Vol. 16: Pp. 115-118, April 1937.
31. Meriam, J.L. "Avoiding Difficulties in Learning To Read", Educational Method, Vol. 8: Pp. 413-419, April 1930.
32. McElwee, E.W. "A Study of Retardation and Special Instruction in Reading", Elementary School Journal, Vol. 32; Pp. 135-142, October 1931.
33. Monroe, M., "Children Who Cannot Read, University of Chicago Press, 1932. (9)
34. Monroe, M. "Reading Aptitude Tests for the Prediction of Success and Failure in Beginning Reading", Education, Vol. 56: Pp. 7-14, September 1936.
35. Murphy, Helen A. "An Evaluation of Exercises for Developing Auditory Discrimination", Unpublished M.A. Thesis, Boston University, 1940.
36. Payne, C.S. "The Derivation of Tentative Norms for Short Exposures in Reading", Harvard Monographs in Education, No. 10, Harvard University Press, Cambridge, 1930: Pp. 1-77
37. Raguse, R.W. "Qualitative and Quantitative Achievements in First Grade Reading", Teachers College Record, Vol. 32: Pp. 424-436, February 1931.
38. Reed, Mary M. "An Investigation of Practices in First Grade Admission and Promotion", Contributings To Education, No. 290, Teachers College, Columbia University 1927.
39. Richards, T.W. "A Case of Reading Disability Due to Deficient Visual Imagery", Psychological Clinic, Vol. 20: Pp. 120-124, June 1931.
40. Schmidt, Bernadine "Auditory Stimuli in the Improvement of Reading", Elementary English Review, Vol. 18: Pp. 149-154, April 1941. (3)
41. Smith, C.A. & Jenson, M.R. "Educational, Psychological and Physiological Factors in Reading Readiness", Elementary School Journal, Vol. 36: Pp. 583-594, 682-691, April and May 1936.

42. Smith, Nila B. "Matching Ability as a Factor in First Grade Reading" Journal of Educational Psychology, Vol. 19: Pp. 560-571, November 1928.
43. Smith, Nila B. "An Experiment to Determine the Effectiveness of Practice Tests in Teaching Beginning Reading", Journal of Educational Research, Vol. 7: Pp. 213-228, March 1923.
44. Stone, C.R., "Current Experience Method in Beginning Reading", Elementary School Journal, Vol. 36: Pp. 105-109, October 1935.
45. Sullivan, H.B. & McCarthy J. "An Evaluation of Reading Readiness Materials", Education, Vol. 62: Pp. 40-43, September 1941.
46. Tate, H.L. "Influence of Phonics on Silent Reading in Grade I", Elementary School Journal, Vol. 37, Pp. 752-763, June 1936.
47. Tiffin, J. & McKinnis, M. "Phonic Ability--Its Measurement and Relation to Reading Ability", School and Society, Vol. 51: Pp. 190-192, February 10, 1940.
48. Tufts, Betty "An Evaluation of Several Types of Auditory Discrimination Tests for Kindergarten and First Grade", unpublished Ed. M. Thesis, Boston University 1941.
49. Waters, D., "Pre-reading Experience", Education, Vol. 54: Pp. 308-312, January 1934.
50. Wert, J.E. Educational Statistics, McGraw-Hill Book Co., Inc. 1938.
51. Wilson, F.T. & Burke, A. "Reading Readiness in a Progressive School", Teachers College Record, Vol. 38: Pp. 565-580, April 1937.
52. Wilson, F. & Flemming C. "Letter Consciousness of Beginners in Reading", Journal of Genetic Psychology, Vol. 53: Pp. 273-285, 1938.
53. Wilson, R.T., Flemming C., Burke, A. Garrison, C.C. "Reading Progress in Kindergarten and Primary Grades", Elementary School Journal, Vol. 38; Pp. 442-449, Feb. 1938.
54. Wilson, F.T. & Flemming, C.W. "Correlations of Reading Progress with Other Abilities and Traits in Grade I", Pedagogical Seminary and Journal of Genetic Psychology, Vol. 53: Pp. 33-52, Sept. '38.
55. Witty P., Kopel, D. Reading And The Educative Process, Chapter VI, Pp. 162-202, Ginn & Co. 1939.

43. Smith, W. B. "Reading Ability as a Factor in First Grade Reading." Journal of Educational Psychology, Vol. 29, pp. 200-207, November 1936.

44. Smith, W. B. "An Experiment to Determine the Effectiveness of First Grade Tests in Reading." Journal of Educational Psychology, Vol. 29, pp. 208-215, December 1936.

45. Stone, C. R. "Current Researches in Reading." Elementary School Journal, Vol. 36, pp. 100-106, October 1935.

46. Sullivan, H. B. & McCarty, J. "An Evaluation of Reading Reading Materials." Education, Vol. 55, pp. 40-45, September 1935.

47. Tate, H. J. "Influence of Position on Silent Reading in Grade 7." Elementary School Journal, Vol. 37, pp. 733-735, June 1936.

48. Tiffin, J. & Hollings, M. "Reading Ability--Its Measurement and Relation to Reading." Journal of Educational Psychology, Vol. 27, pp. 185-192, February 1935.

49. Telford, Betty. "An Evaluation of Several Types of Auditory Discrimination Tests for Kindergarten and First Grade." Unpublished M. A. Thesis, Boston University, 1935.

50. Waters, D. "Pre-reading Experiences." Education, Vol. 54, pp. 300-312, January 1934.

51. Warr, J. E. Elementary Statistics, McGraw-Hill Book Co., Inc. 1932.

52. Wilson, F. T. & Sprue, A. "Reading Readiness in a Progressive School." Elementary School Journal, Vol. 35, pp. 580-585, April 1935.

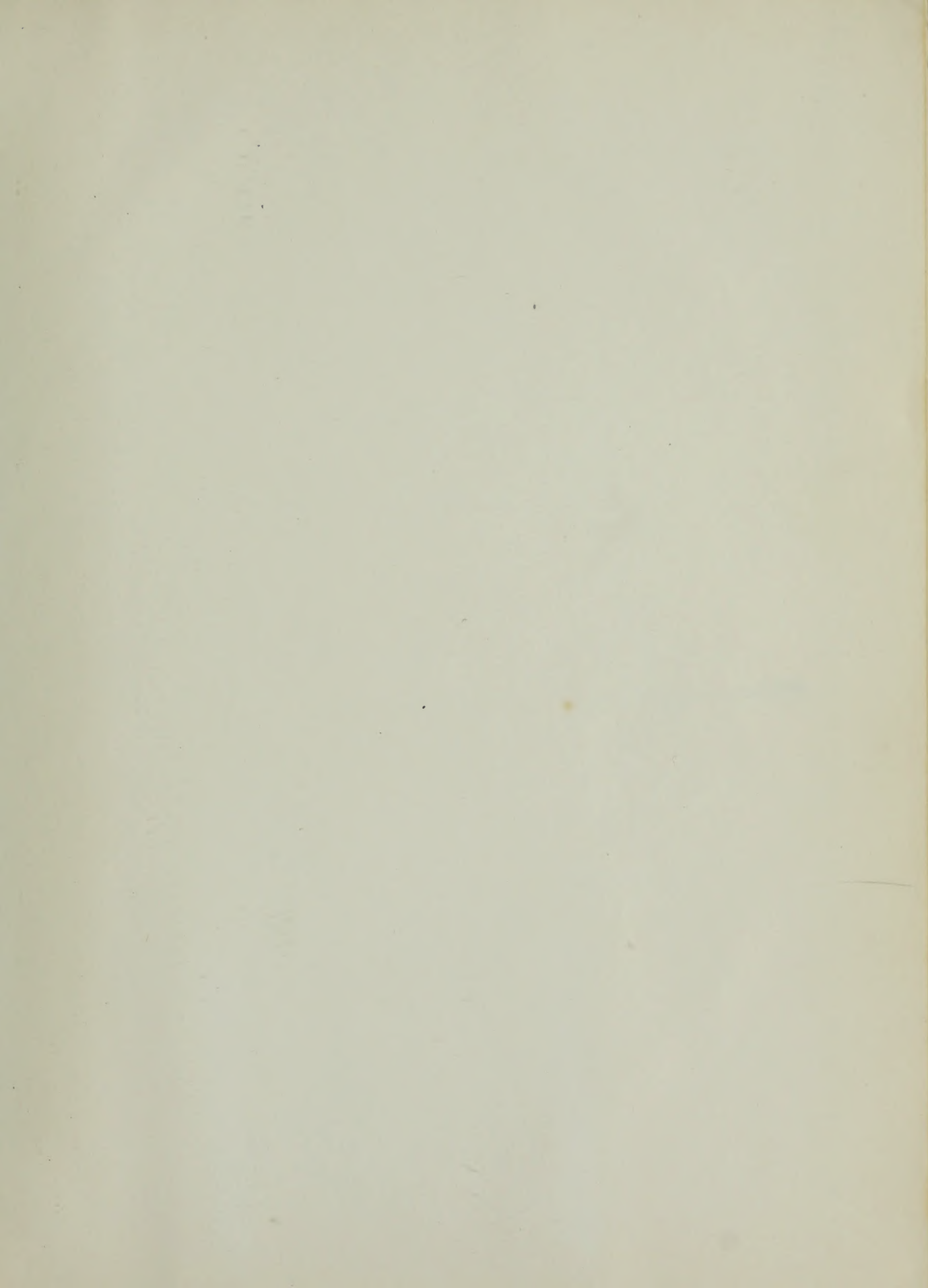
53. Wilson, F. T. & Fleming, G. "Better Comprehension of Sentences in Reading." Journal of Genetic Psychology, Vol. 53, pp. 275-285, 1938.

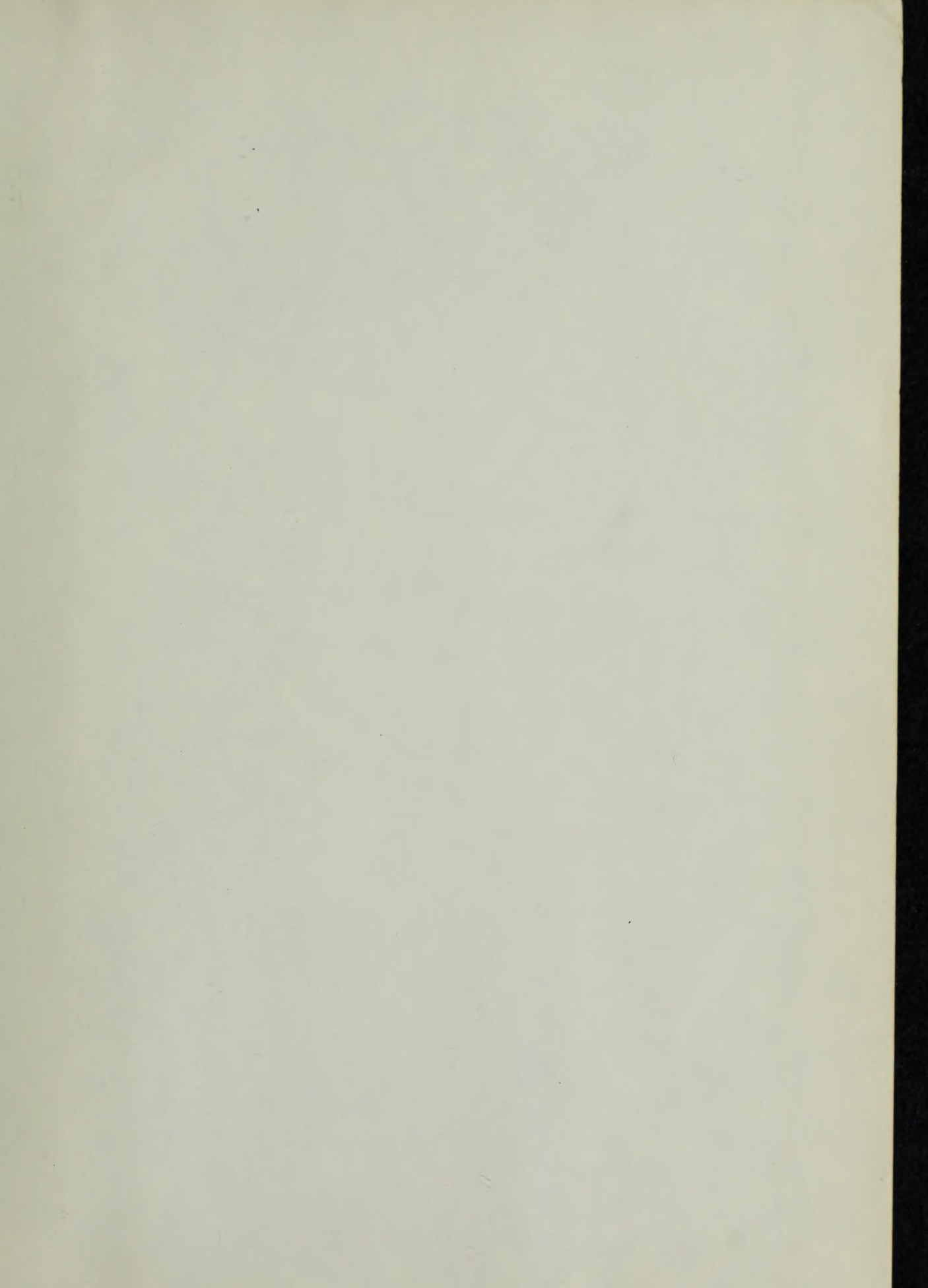
54. Wilson, F. T., Fleming, G., Burns, A., & Garrison, C. C. "Reading Progress in Kindergarten and Primary Grades." Elementary School Journal, Vol. 35, pp. 443-449, Feb. 1935.

55. Wilson, F. T. & Fleming, G. W. "Correlations of Reading Progress with Other Abilities and Traits in Grade 1." Elementary School Journal, Vol. 35, pp. 450-455, Feb. 1935.

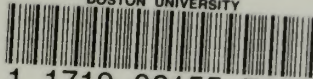
56. Wilson, F. T. & Fleming, G. W. "Reading and the Elementary Process." Elementary School Journal, Vol. 35, pp. 456-461, Feb. 1935.

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